

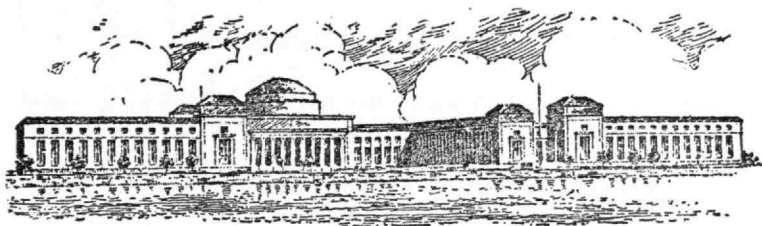
THE DEAN

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technology review

Published by MIT

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The Technology Review

Published at Cambridge 39, Boston, Mass.

ROBERT E. ROGERS, *Editor*, Massachusetts Institute of Technology, Cambridge, Mass

VOL. XXIII

JULY, 1921

No. 3

HAIL AND FAREWELL

THIS issue of the REVIEW describes the inauguration of Dr. Ernest Fox Nichols as President of the Institute and gives his first messages to the alumni and friends of Technology. It is an occasion of the highest importance to a great institution, beginning as it does, under the happiest auspices, a ministry of the fairest possible opportunity for service, one which we all expect will be important and which we all hope will be long.

This issue also announces the immediate retirement of Alfred E. Burton after forty years as teacher and nearly twenty years as Dean of students at Technology. Nothing we can say can add one jot to what everybody has been saying for the past two months about the Dean, nor can it begin to express adequately the value of his life to the Institute. For the future we have every hope and expectation. But the past we possess! We *know* what has been done and we recognize its unique and memorable importance.

Satisfaction in our achievements and our possessions, even at these great moments, mingles inevitably in our minds with memories of losses. We have a magnificent school, a superb equipment, a generous endowment. We have Dr. Nichols. We have lost Maclaurin and Sedgwick. We are losing Burton. In the rising city their memorials are set high for all generations to see and reverence — *monumentum aere perennius*.

This issue of the TECHNOLOGY REVIEW is dedicated, gratefully, lovingly, justly, to Alfred Edgar Burton, Dean.

THE INAUGURATION OF PRESIDENT NICHOLS

A great and dignified function, befitting the Institute and the event

AFTER an interregnum of nearly a year and a half since the death of President Richard C. Maclaurin, the Massachusetts Institute of Technology has once more placed academic and administrative control in the hands of a leader, with the inauguration as president of Ernest Fox Nichols, Sc.D., LL.D., formerly president of Dartmouth College, in Walker Memorial on the morning of Wednesday, June 8.

The gathering could not have been called colorful, for Technology ideals do not tend toward display, but if the scene was not brilliant, it was a gathering of brilliant men that had come to witness it. Presidents of nearly a score of colleges, country-wide in scope, and representatives of more than as many more; the Governor of the Commonwealth, military and naval dignitaries, the chief executives of Cambridge and Boston, and prominent scientists made up an impressive list of delegates.

For such an academic meeting, the absence of the academic cap and gown was noticeable. There were a few seen — the speakers and members of visiting delegations wore academic dress — but for the most part the semblance of color and formality present was contributed by the uniforms of the military and naval delegates.

Befitting the recognized position of Technology in the scientific world, the equipment included the last word in the arts of telephony and lighting. High in the hall, far over the heads of the speakers as they delivered their addresses, hung a hood, which caught the sound waves and amplified them manifold for the benefit of the sixteen hundred who packed the hall to capacity, and even for those who, unable to gain admittance to the building, crowded the steps and sidewalk before the Memorial.

From the balcony over the steps three megaphones were hung, which transmitted the words of the speakers as plainly as if the audience were seated before the platform. Hundreds who would otherwise have been unable to take part in the exercises were thus enabled to hear the statement of the policies of the man who will shape the destinies for years to come of one of the greatest scientific schools in the world.

The order of exercises was as follows:

INVOCATION, REVEREND GEORGE A. GORDON.

INDUCTION OF THE PRESIDENT, ELIHU THOMSON, Acting President of the Institute.

ADDRESS, HIS EXCELLENCY CHANNING H. COX, Governor of the Commonwealth.

ADDRESS, A. LAWRENCE LOWELL, President of Harvard University.

ADDRESS, HENRY P. TALBOT, Chairman of the Faculty.

ODE: "THE INSTITUTE", by Frederick P. Fish of the Corporation.

INAUGURAL ADDRESS, ERNEST FOX NICHOLS.

Singularly similar were the keynotes of the addresses of President Nichols and Prof. Henry P. Talbot, the latter head of the Administrative Committee which has been deciding Technology's policies during the interregnum. Each stressed the necessity for research in "pure" science, each condemned the tendency of the modern technical school toward a curriculum of advanced technical subjects at the expense of the humanities, each spoke of the possibilities of the Technology plan of industrial co-operation.

President Nichols went further, and discussed the relation of the executive toward the employee, the scientific attitude on the strike question, and the training of the student to become the leader.

From Dr. Nichols' inaugural address it seems apparent that the fears of those well-wishers of Technology who have professed to see in the modern scientific school a tendency toward the practical side of science, to the neglect of the abstract, or pure science, may well be forgotten. Until now, says President Nichols, the workers in applied science have been using as a foundation the discoveries of past generations of scientists, who have established a fund of pure scientific information for their use. Now, however, that fund of abstract science is being depleted with much use, and the applied scientists are facing a drouth of working material. For this he sees only two solutions, either the hand-to-mouth existence of improving this year on last year's processes, or of training men to replenish the rapidly dwindling hoard of abstract scientific information. It seems probable that under Dr. Nichols the policy of Technology will be to do a proper share in this training of abstract research workers.

The exercises opened with the invocation, offered by Rev. Dr. George A. Gordon, pastor of the Old South Church, who officiated in the same capacity at the dedication of Technology's new home on the Charles, in 1916.

The next speaker, Dr. Elihu Thomson, himself a pioneer in the scientific field, relinquished the nominal control which he had exercised in his capacity as acting president, and, in the name of the Corporation, inaugurated Dr. Nichols as president of Technology. Turning to Dr. Nichols, Dr. Thomson, said:

"Dr. Nichols, representing the Institute and its governing board as acting president, I hereby invest you with the duties and the responsibilities of this high office in the full assurance that our confidence is rightly placed, and we pledge you our fullest sympathy and support whenever it may be needed. We know that the best standards and highest aims of our Institute are safe in your hands. We feel assured that the administration of its affairs will be conducted by you upon the high plane and in the spirit which has always characterized your actions, such that the Institute, its alumni and the world-wide friends of the school will have cause for congratulation in your unselfish devotion to its best interests."

Governor Cox, who while at Dartmouth learned, as he says, "all the physics I know," under the tutelage of Dr. Nichols as professor of physics, made the next address as representative of the Commonwealth. He was followed by President A. Lawrence Lowell of Harvard University, who briefly reviewed the career of the Institute and predicted even greater triumphs under the guidance of Dr. Nichols as president.

Prof. Henry P. Talbot, chairman of the Faculty and head of the Administrative Committee since the death of Dr. Maclaurin, turned over to Dr. Nichols the actual management of Institute affairs, reviewing the work of the Faculty Committee and briefly touching on the plans which had been made for the future. Professor Talbot, who has just been elected acting dean of Technology, proffered to Dr. Nichols the co-operation of the Faculty.

While the audience stood the "Ode to the Institute," by Frederick P. Fish, was sung, after which President Nichols delivered his inaugural address. The President was accorded a stirring ovation as he rose, which lasted for some moments before it died away sufficiently for the new president to deliver his speech. The audience was profoundly attentive to the utterance of the convictions that will shape the future Technology policies, and at the close of his speech Dr. Nichols was again cheered to the echo.

Following President Nichols' address, the academic parade, the first that Technology has had in the new buildings, was formed, and as the undergraduate body lined up to form a double line from Walker Memorial to the president's office in the educational buildings the procession came down the steps of Walker Memorial and filed between the rows of undergraduates along Charles River Road and through the Great Court — now named Eastman Court.

As the procession passed undergraduates fell in behind and, massing in the court, cheered and cheered again for Technology and its new president.

Seated on the platform at the exercises were Leonard Metcalf, '92, president of the Alumni Association; Francis R. Hart, treasurer of the Technology Corporation; President A. Lawrence Lowell of Harvard; Channing H. Cox Governor; Dr. Elihu Thomson, acting president; President Nichols; Rev. Dr. George A. Gordon; Prof. Henry P. Talbot; Dr. James P. Munroe, secretary of the Corporation; Dean Alfred E. Burton; Dr. A. D. Little, president-elect of the Alumni Association; E. S. Webster and C. A. Stone of the Corporation; Col. J. C. Christian, professor of military science and tactics; Adj.-Gen. Stevens; Governor Cox's military aid, Capt. John S. Barrows; Dr. A. A. Noyes, formerly acting president of Technology; Prof. E. F. Miller and Prof. E. B. Wilson of the Administrative Committee; George Wigglesworth of the Corporation.

The order of the academic procession was as follows: President Nichols and Dr. Elihu Thomson; Dr. Gordon and C. A. Stone; Governor Cox and E. S. Webster; Adjutant-General Stevens and Colonel Christian; Aid Captain Barrows and Aid Col. George W. Langdon; President

Lowell and F. R. Hart; Professor Talbot and Professor Miller; Dr. Munroe and Professor Wilson; Dean Burton and George Wigglesworth; Leonard Metcalf and Dr. A. D. Little.

There followed the Delegates from other institutions, members of the Corporation, the Senior Class, the Alumni, the Faculty, the Instructing Staff and the Undergraduates.

Among the delegates at the inauguration were Charles Francis Adams of the Harvard Corporation, Dean Anthony of the Tufts Engineering School, President Wallace W. Atwood of Clark University, George H. Barton of the Boston Society of Natural History, Louis A. Bauer of the Carnegie Institute of Washington, Librarian F. S. Belden of the Boston Public Library, E. R. Berry of the University of Maine, Edmund Billings of Boston, Theodore Bradley, dean of the Massachusetts College of Pharmacy, President LeBaron R. Briggs of Radcliffe, Prof. E. W. Brown of Yale, Dr. Herman Carey Bumpus of Brown University, William B. Cabot of the Rensselaer Polytechnic Institute, Mabel Chase of Mt. Holyoke College, Dr. A. L. Clark of Queen's University of Ontario, President John A. Cousens of Tufts College, Dr. Harvey Cushing of the Peter Bent Brigham Hospital, C. W. Doten, of University of Vermont, Charles A. Eaton, Ex-President Edward Dwight Eaton of Beloit College, Charles L. Edgar of Rutgers College, President Emeritus Charles W. Eliot of Harvard University, Dr. H. C. Ernst of Harvard Medical School, President Arthur Fairbanks of the Boston Museum of Fine Arts, President W. H. P. Faunce of Brown University, Rear Admiral W. M. Folger, United States Navy; Hon. W. F. Garcelon of Bates College, Dr. Harry A. Garfield of Williams College, Dr. Hollis Godfrey, director of Drexel Institute; Morris Gray of the Museum of Fine Arts, Ralph D. Hetzel of New Hampshire College, President Charles S. Howe of Case School of Applied Science, Mark Antony de Wolfe Howe of Lehigh University, Prof. H. J. Hughes of Harvard, G. F. Hull of Dartmouth, Prof. D. C. Jackson of Cornell University, Arthur S. Johnson of the Young Men's Christian Association College, Col. J. R. Keen of the University of Virginia, Dr. W. W. Keen, of the University of Pennsylvania, President Harry Lefavour of Simmons College, Prof. Hamilton Kuhn of the University of Minnesota, Prof. Emil Lorch of University of Michigan, President A. Lawrence Lowell of Harvard University, A. P. Matthews of University of Cincinnati, Carl E. Melugin of University of Idaho, Charles A. Morss, governor of the Federal Reserve Bank; President Lemuel H. Murlin of Boston University, George R. Nutter, Boston Chamber of Commerce; Acting President George D. Olds of Amherst College, Roscoe Milliken of Western Reserve University, George B. Pegram of Columbia University, President Pendleton of Wellesley College, T. N. Perkins of Boston, Dr. Lewis Perry of Phillips Exeter Academy, Mayor Andrew J. Peters of Boston, Dr. Thomas M. Putnam of the University of California, Mayor Quinn of Cambridge, Walter B. Russell of the Franklin Institute, Maj.-Gen. David C. Shanks, commander of the Department of the Northeast; Prof. G. A. Shook of Wheaton College, President Kenneth

C. M. Sills of Bowdoin College, Bradley Stoughton of the American Society of Mining Engineers, Augustus Trowbridge, of Princeton University, Worcester R. Warner of American Society of Mechanical Engineers, Prof. C. H. Wesley of Howard University, Prof. R. R. Wilson of Wooster College, Arthur T. Williston, director of Wentworth Institute; Prof. F. S. Woods of Wesleyan University, Lieut.-Col. Gilbert Youngberg.

Following the academic procession President Nichols held a short reception in the educational building, after which luncheon was served to the guests of the Institute in the faculty room of Walker Memorial.

The organization of the inauguration was in the hands of the following committee:

Chief Marshal: Col. Frank L. Locke.

Chief of Staff: Walter Humphreys.

Ushering in General and Programs: Horace Ford, Bursar.

Equipment: Mr. Ford and Major Smith.

Reception:

Delegates: Dr. Munroe, Professors Tyler, Emerson and Jackson.

Corporation and Faculty: Prof. W. H. Lawrence.

Instructors and Assistants: Professor Swett.

Students: Professors Norton and Dillon.

Alumni: Professor Spofford, Messrs. M. L. Emerson and I. W. Litchfield.

Governor: Colonel Christian.

Public: Professor Spofford.

Decorations: Professor Gardner.

Music: Professor Pearson.

ODE: THE INSTITUTE

Sung at the Inauguration

Founded on the rock of knowledge,

Planned with wisdom, wrought with care,

Rose our citadel of learning,

Rich with promise, strong, and fair.

Loyal service, fruitful effort,

Zeal to search and know the truth,

These the watchwords of its wardens,

These the goals pursued by youth.

Praise and honor to the founder,

And to those whose course is run;

Their example, as a halo,

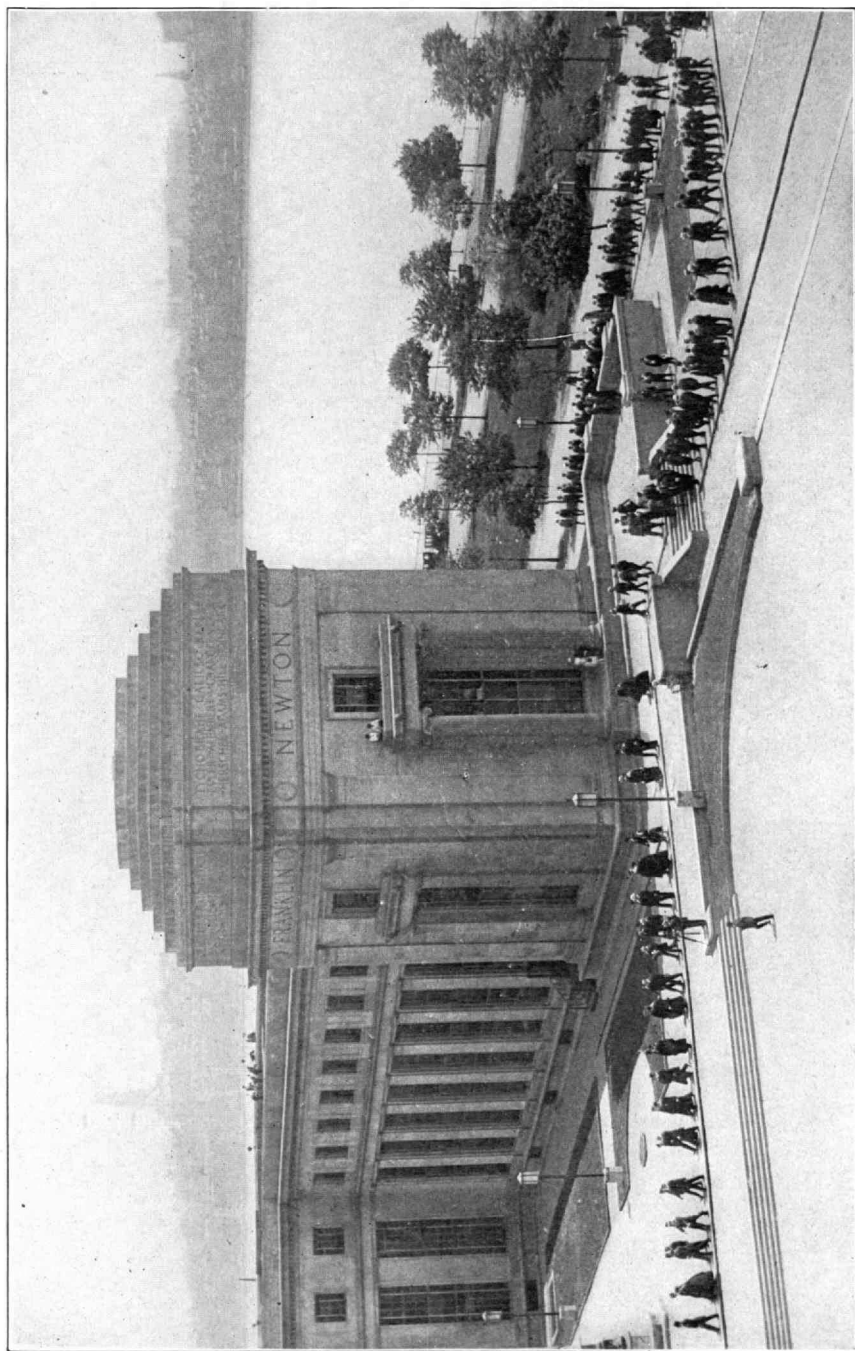
Crowns the work so well begun.

We, the living, pledge our effort

To transcend the radiant past;

Ever faithful to the standard,

To the promise holding fast.—FREDERICK P. FISH.



BIRD'S-EYE VIEW OF ACADEMIC PROCESSION AFTER THE INAUGURATION OF PRESIDENT NICHOLS, JUNE 8, 1921
From *Boston Transcript*

DR. ELIHU THOMSON

Acting President

THE service rendered by the Massachusetts Institute of Technology during its existence of some few years more than half a century in establishing upon a firm basis technical education and engineering training would not have been possible had it not been fortunate in having exceptional men at its head — men of great ability, high ideals and intense, almost passionate, realization of the future of science and its applications. The building up of a great school from small beginnings amid many difficulties required their unselfish devotion to a difficult task; earnest support by Faculty, Alumni, at first very few, and the friends of the school. Their tireless effort led to that increasing public confidence and general recognition of the value and necessity for the kind of training for which the school has stood — TECHNOLOGY, broadened and illuminated by scientific study, work founded on thorough scientific research and investigation as against rule of thumb or traditional methods merely; not a narrow specialization, but by learning which looks forward as well as backward, that uses the history as a means of inspiration for further future advancement and achievement.

Well within the period of my remembrance of thirty years ago is the incumbency as president of the young and struggling school, of General Francis A. Walker, to whom this building in which we meet has been erected as a memorial, and who devoted his life to the upbuilding of the Institute.

The Institute today, in its new location and with its splendid buildings here on the Charles, we may regard as an enduring monument to the labor and sacrifice of our late president, Dr. Maclaurin, who, possessing all the qualities of an able exponent of science, as well as educator and administrator, easily won the confidence of the Corporation, Faculty and Alumni, who recognized in him a sane and safe leader, whose attainments and ideals were of the highest, and whose unflagging energy and enthusiasm led later to the wonderful rebirth exemplified in the new Technology. To have known him, to have worked with him, was a privilege. He was great in all the things he undertook. All too soon it became the task of the governing body to find a successor.

To know how best to administer the affairs of a great educational enterprise, particularly those of a great modern technical school; to be able to sympathize from real knowledge and acquaintance with scientific developments, with the work of its departments, varied over a wide range; to realize when the best interests of the students are being rightly served; to be unflinching in criticism when it is needed; to be far-sighted and clear in vision; to inspire to greater accomplishment; to keep abreast of the times and to lead as far as possible; to understand broadly

and in its widest aspect the importance and influence of technical education to the state, to the nation, and to the world at large, and lastly to combine with these great abilities personal qualities of the highest order, demands a rare man. Our leader must be as far as possible just such a man, able to take up the work where he finds it and lead in the future growth and usefulness of our Institute. We of the governing body believe that our careful search for more than a year past has brought to us the man for whom we were seeking. Of highest attainment in science, whose original work is known throughout the world, the recipient of many honors here and abroad, chosen to membership in the few societies of the highest rank, experienced as professor and teacher, a most successful administrator as president of Dartmouth College for eight years, I have the pleasure and the honor of calling upon Dr. Ernest Fox Nichols, now formally to accept the presidency of the Institute and to receive inauguration thereto.

Dr. Nichols, representing the Institute and its governing board as acting president, I hereby invest you with the duties and responsibilities of this high office in the full assurance that our confidence is rightly placed, and we pledge you our fullest sympathy and support whenever it may be needed. We know that the best standards and highest aims of our Institute are safe in your hands. We feel assured that the administration of its affairs will be conducted by you upon the high plane and in the spirit which has always characterized your actions, such that the Institute, its alumni and the world-wide friends of the school will have cause for congratulation in your unselfish devotion to its best interests.

Were this occasion less of a public one, I might dwell upon the long period of years during which I have known you and your work, and on the peculiar admiration I have always had for you.

In closing, I may be permitted simply to say that in laying down the more or less nominal duties of acting president, I believe that the Institute is particularly fortunate in having as a permanent successor to our beloved and deeply lamented President Maclaurin, one who was so close a friend to him, one knowing his problems and who, as a friend, esteemed him most highly.

CHANNING H. COX

Governor of Massachusetts

MASSACHUSETTS is small in area. She has not been able to supply large quantities of food to the rest of the world. Massachusetts is not rich in natural resources. She has not been able to furnish timber or to yield precious ores for other states. But to her glory Massachusetts has been rich in men capable of service, and these she has generously given to the world. Men have fared forth from Massachusetts carrying with them a love of civil and religious liberty. Men have gone forth from Massachusetts carrying with them an understanding of free institutions, and wherever they have settled, there they have been leaders in establishing and maintaining ordered government under law. Men have learned history in Massachusetts and they have been able to aid their fellow men in charting a future course in the light of past experience. Massachusetts was early to recognize the importance of science, and she has been zealous to offer to her sons every opportunity of technical training.

Today we have assembled at one of the great institutions of Massachusetts, a seat of learning where men have studied with serious purpose under skilled teachers, and from which they have gone forth well equipped to do large things for the welfare of the world. The Institute of Technology has brought prestige to Massachusetts. Her people rejoice in your strength, in your eminent faculty, in your superb buildings, in your endowment, in your mighty army of loyal alumni, and in the body of eager students coming here from all parts of the world. Massachusetts holds in tender regard those who have labored and sacrificed to make Technology strong and great. So devoted, so gifted have been the leaders of this great school that, when they have fallen one after another, it has seemed a task of the utmost difficulty to fill their places. Today we meet with rejoicing. A new leader has answered the call of duty and confidently we pledge our support to him who has so amply demonstrated his capacity as student, teacher, scientist, administrator, and as a red-blooded leader of men. It is a particular satisfaction for me to have a brief part in these exercises, for one of the most pleasant recollections of my own college days is the course in physics which I took under your new president. No one could have such an opportunity and not be impressed with the wide learning and even more the high character and genuine human sympathy of Doctor Nichols.

So as the representative of the Commonwealth I welcome you, President Nichols, not only as the new head of this great institution which has contributed so richly to the good name of Massachusetts, but in these days of confusion I welcome you into the life of Massachusetts, knowing you to be a right-thinking public-spirited citizen. May

the Institute of Technology under your leadership enjoy continued success, and may her sons in larger measure than ever before, be of real service to humanity.

ABBOTT LAWRENCE LOWELL

President of Harvard

SCARCELY more than half a century ago the Institute of Technology opened its doors. Owing to small means and growing expenses, the difficulties that it had to overcome were very great; but the founder was a pioneer and a prophet — clear in his conception of what the Institute should be, persuasive, tenacious and indomitable in his pursuit of it. He collected about him an instructing staff filled with his own glowing spirit, and a devoted Corporation. In its early days the Institute took great risks, straining its credit at one time so much that the treasurer personally endorsed its notes.

Through these obstacles it made its way, growing larger and stronger, until by the generosity of Mr. Eastman it inhabits the palace in which we are assembled to inaugurate its new president, the seventh of an illustrious line. The well-nigh uninterrupted career of prosperity of the Institute has, indeed, been one of the very impressive things in the history of this community and of national education.

Apart from the personal qualities of the men in whose hands have lain the destiny of the Institute, there would seem to have been three reasons for its phenomenal success. The first of these is, that like some of the great figures in history, it was born at the right time. The control of man over the forces of nature, which lies at the base of the industrial and social changes of these later times, had just reached the condition in this country when systematic teaching was greatly needed, and when those who had received its benefits found, lying open before them, the career for which they had been trained.

In the second place, the Institute devoted its efforts from the first to a perfectly definite purpose, that is, the training of young men to apply the laws of nature to the constructive arts. The original plan did, indeed, contemplate a society and a museum of arts. The last of these was never established, and the former became distinctly subsidiary to the School of Engineering. The Institute had the advantage which belongs to every man and every association that knows exactly the object sought and the means of attaining it.

In the third place, the Institute has ever maintained a wise balance between the theoretical and the practical in its instruction. It has not been led astray by a fad of the day to lay undue emphasis on some particular aspect of technical education, to the disparagement of other aspects not less important.

In short, the Institute was founded for an object. It has never for an instant lost sight of that object, and it has been conducted with the single-minded aim of attaining that object. It has attained it; and, as the object is of great public importance and value, the Institute has

been recognized and supported as it has deserved. It has achieved on its merits the foremost place among the engineering schools of the country, and under your guidance, President Nichols, we trust that it will retain and enlarge the reputation it has so justly won.

HENRY P. TALBOT, '85

Chairman of the Faculty and of the Administrative Committee

It is my great privilege to extend to you, Mr. President, on behalf of the Faculty of the Institute a message of welcome. We believe that, at least in fundamental essentials, we bid you welcome to a "house in order". It is a structure planned by many minds and erected by many hands, and it seems fitting to review very briefly some of the significant achievements and conditions, particularly of the last decade, which have determined its present form and will determine its fitness to meet the needs of the future. It is indeed, a far cry from the simple rooms, almost without equipment, on Summer Street, Boston, in which the Institute, with its fifteen students, had its beginnings, to the present imposing and efficient educational plant with its extensive technical facilities. Of the present Faculty, one member, Prof. R. H. Richards, links us with the Institute's entire past, for he has witnessed the erection of the Rogers Building, then the Walker Building, later a group of buildings, and finally the present plant. By way of contrast, it is of interest to note that with the advent of the Class of 1924 last October there began at the Institute a student-generation to whom the associations which must always cluster about Rogers steps in the memories of many here today are quite unknown. But within the present wholesome student life there are forming new traditions and customs centering about new spots, which in time will have the same sanctity as the Rogers steps of old, and we of today delight to pay deserved tribute to the unprecedented generosity of our friends, among whom the name of Eastman must ever stand pre-eminent, to the inspiring leadership and devotion of the late President MacLaurin, and to the loyal support of the Alumni, all of which made possible the facilities for educational and scientific service and development with which we are surrounded. We should, however, also pay a tribute of grateful recollection to the courage of those members of the Corporation, past and present, whose faith was strongest when funds were most scarce, and to those members of the Faculty who made great personal sacrifices at a time when the very existence of the Institute was conditioned upon such help. The buildings which they provided and planned may have vanished, but the successes of today and those to which we look forward with confidence for the morrow are, nevertheless, inspired and made possible because of their devotion. We realize that our heritage from the past is great, and the privileges of the present are such as to impose upon us great responsibilities.

The last decade has offered to educational institutions unprecedented opportunities to test their ability to serve civilization, industry, and the Nation in a time of great crises. The test of the war was searching

and severe; nowhere more so than with respect to the particular sort of training and education which it is the duty of this Institute to provide. The record of service and achievement of Technology's sons is legitimately a source of inspiration and encouragement. It is also a part of that splendid record made by college-trained men throughout the country, and we share the sense of pride and satisfaction which it occasions with our sister institutions, many of whose representatives are here today, and to whom, as a Faculty, we extend our greetings. Broadly considered, the test has been splendidly withstood, but flaws have also been discovered which are demanding and should receive consideration.

The activities of the war enabled the public to discover that the college professor is, after all, a useful citizen, who can and does give good and practical account of himself in times of emergency; that he has, indeed, rendered service which was distinguished for maturity of conception and systematic execution. One material result of this discovery is a closer contact and a better understanding between the members of college faculties and the leaders in industrial and engineering fields, with the further result that the college men are afforded facilities for an acquaintance with the conditions which confront the young graduate, a knowledge of which on the part of a teacher is one of the most essential factors in effective educational service in this period of readjustments. These industrial contacts will, moreover, serve to vitalize instructional material, and to diminish the sometimes too rigidly academic character of present instructional methods, without sacrifice of intrinsic accuracy and thoroughness.

This increase in community of interest, again, bears directly upon a subject in support of which many voices have been raised and much has been written, namely, more effective general co-operative effort as between educational institutions and the industries. There is great enthusiasm for the principle; there are but few practicable working programs. This is not strange, for the problem is many sided and complex. An encouraging and valuable product of this agitation is the increasing tendency on the part of those in control of industrial plants to admit college men — students and staff — to participation in the operation of those plants during vacation periods, and to encourage co-operative schools, both undergraduate and graduate. The inauguration of co-operative Courses in Electrical Engineering and in Chemical Engineering has been one of the most important features of the educational development of the Institute within the last few years, and one of much significance for the future. The Course in Engineering Administration is conceived in the same spirit. These courses seem to offer the best approximation to a solution of the difficult problem of enabling a young graduate to enter his life work in the industrial field with some knowledge of the human factors with which he must deal; that is, to give him some knowledge of the much-talked-of problem of "human engineering."

The emergencies of war-time experience accentuated a situation which had begun to be recognized prior to 1914, namely, that the waste-

ful habits of generations must be abandoned and a critical study of operating conditions and measures of conservation be substituted. A noteworthy growth of research organizations within the industries has been the result. These vary in character from those which are scarcely more than control laboratories to those in which a large staff of workers are employed and in which investigations in abstract as well as applied science are extensively supported. The personnel of these organizations has been recruited from the college-trained men, sometimes at the temporary expense of college staffs. But, notwithstanding the development of these organizations within the industries there remains much that educational institutions can do for these industries through co-operation. Most problems which relate to the improvement or development, rather than to the control of industrial operations, resolve themselves into abstract problems in physics, chemistry, mechanics or electricity. The smaller research organizations have neither time nor facilities for their solution; even the largest are confronted with questions which demand access to large libraries, or special equipment, or co-ordinated attack by several specialists, and to such problems the staff and facilities of a technical school can be brought to bear with peculiar effectiveness, and the findings will be regarded as authoritative and impartial.

Recognizing the need of such co-operative service, the Institute established about two years ago the Division of Industrial Co-operation and Research to carry out the purposes of the so-called "Technology Plan" which has as its objective the assistance of the industries along the lines thus briefly outlined. This Division operates through the members of the Instructing Staff and the Institute benefits by the reflex influence of the problems upon those participating in them, and a marked encouragement in research of all kinds. It is already evident that the work of this Division is of far-reaching importance in the developments of the future.

However great the strain may be which the recent sudden increase in numbers of college students has placed upon educational plants and their equipments, the strain upon long-time methods and habits of instruction has, perhaps, been even greater. During the emergencies of the war expedients were permissible because unavoidable. We are now passing through a period in which excuses no longer avail and in which there should be courageous introspection and self-criticism. Conservatism in education, though often criticized, has its proper justification, but the situation now confronting us is one in which efficiency of instruction must be maintained against the odds of large numbers to be instructed, and instructional methods must be improved, and new and better selective agencies discovered.

You come to us, Mr. President, at a time when we have many of these problems of reconstruction as yet unsatisfactorily solved. You will approach them from an unfettered viewpoint and we shall look to you for counsel and guidance, believing that you will co-operate with us in maintaining what has been the tradition of the Institute since

its inception in the mind of President Rogers, that it shall, while making trustworthy engineers, not fail to inculcate in its students a knowledge and appreciation of the humanities.

Allusion has already been made to industrial research as associated with the operations of the "Technology Plan". In an institution such as our own, no sharp distinction can be drawn between research which may be termed "industrial" and that falling within the confines of abstract science. Our Research Laboratory of Applied Chemistry and that of Industrial Physics, for example, have many investigations of an abstract nature in progress; our Research Laboratory of Physical Chemistry, and our laboratories of Organic Chemistry are carrying on investigations of direct importance to the industries and the Federal Government; our Research Laboratory of Electrical Engineering draws no line between pure and applied problems. But it is not alone in the laboratories with somewhat formal organizations that the Instructing Staff of the Institute is adding its quota to the development of human knowledge. The fundamental task of the Institute is and must be the adequate training of its undergraduate students and the burden which this imposes upon its staff is here, as in all American institutions of learning, so great as necessarily to limit their scientific and scholarly productivity more than is desirable. But in spite of this, our graduate work and scientific output have grown rapidly in the last decade, and we believe that you will find the staff of instruction imbued with that desire for and spirit of research without which no body of educators can remain alert and effective. We welcome the incentive for further scholarly development which your wide experience in varied fields will bring to us.

We realize, Mr. President, that much is demanded of one who exercises the presidential functions. He must be a scholar, an educator, a man of large sympathies for youth and quick appreciation of their attitude toward college life, both academic and social. He must lead and inspire the members of his instructing staff and at the same time exercise wise discrimination and make prompt decisions in complex situations. As Professor Cayley has said, "He must not only welcome suggestion from his associates of the Faculty, but invite it, and have the grace to know when to seem to take it, when to take it, and when to leave it. He must sometimes make two good professors grow where one poor one grew before." With all this, he must be ready to proclaim the institution at all times and be wise in matters financial. We realize that no one man can be or do all of these things in equal proportion, but, coming to us as you do, with such a breadth and fullness of experience and with distinguished achievement in the fields of science, education and industry, we look forward with confidence to your leadership. We trust that you will find in us, as a Faculty, a spirit of earnest conviction without undue egotism, of progressiveness with proper conservatism, and of loyal support in all that pertains to the increased prosperity and usefulness of the institution which it is our honor and happiness to serve.

THE INAUGURAL ADDRESS

President Nichols

THE Institute like every other educational enterprise, has its individual problems and needs, but these I do not yet sufficiently understand to make a public discussion of them profitable to anybody. What I shall say, therefore, bears on technical education in general without reference to the separate needs of this or any other school.

I

Many of you who have lately become familiar with Mr. H. G. Wells's interpretation of history will realize new significance in the fact that children are born into a world that is already old. For many thousand years before our generation men were experimenting with nature, with social, economic, political and religious ideas and practices. Our civilization today is the forward-borne product of this slowly and painfully acquired experience of the race.

The whole educational process, broadly seen, is the problem of putting our young people in touch with the more outstanding results of this age-old accumulation and of giving them exercise in the most direct thought processes by which this experience and knowledge have been acquired; processes by which present experience and knowledge may be enlarged and extended.

The education of boy or girl, therefore, consists in bringing them up to the present day, so that they can enter independent life as useful thinkers and doers in the world as it is. Dreams of what the world ought to be are not only stimulating but indispensable to human progress, but each generation must begin building on the world as it finds it.

Expressed otherwise, our educational effort is directed to give a young man of intellectual interests and possibilities, the main features of his racial background and especially to acquaint him with the best and most significant things which have been thought and done in the world, so that at maturity all new things which present themselves to him he can in some measure appraise in their relations to this background.

I know no better measure of a man's real education than the adequacy of his thought and action in whatever actual situations he may find himself, for adequacy of thought and action imply some hold on world experience. Our daily use of the phrase "common sense" has no other meaning.

Vital possession, conscious or unconscious, of this world background enables a man sanely to face and interpret reality. You rarely find such a man seriously occupied in chasing rainbows or fighting windmills. His chief mental characteristics are breadth, balance, sanity. To train

such men and women should be the dominant ideal of the educational process. How often and how far, alas! do we fall short of attaining it.

Mr. Chesterton's recent amusing raillery at "The Ignorance of the Educated" would lose none of its charming humor and would gain in truth and pungency if he changed his title to "The Ignorance of the Half-Educated". These are the really dangerous men, for they are facile of speech and wholly unaware of their intellectual limitations. By contrast the adequately educated man knows always just where he stands. Ought not an engineer to know enough of philosophy and its uses not to be misled into dogmatizing upon its technical intricacies; and should not a philosopher be taught enough about bridges and dynamos to be satisfied with dwelling on the broad scientific principles they illustrate without venturing to criticize minor details of construction?

Education interpreted as a background builder is far wider than the schools and stretches endlessly from the cradle to the grave. Yet a careful scrutiny of the course of individual development shows that in the latter half of the period of adolescence, say from eighteen to twenty-five years of age, lie the strategic years of education. It is in this period that wisely directed teaching can do most to integrate and interpret this background, do most to give it unity of form and grouping, color, symmetry and depth. During this formative period no great department of human experience can be safely ignored, if our purpose is to train adequately educated men and women.

The department of human experience and action on which the major emphasis shall fall is a matter wisely left to the individual preference, aptitude and taste of the student. In schools of technology this emphasis falls naturally on the study of science. But studies in science can be made as narrow as can studies in philosophy and the arts. Narrowness of outlook, always a major defect in our efforts at education, we must strive unceasingly to avoid. All fields of knowledge and experience form a whole, and, in our teaching, their vital interdependence must be most clearly emphasized.

With his characteristic grasp of essentials, President Nicholas Murray Butler has stated these traits of the educated man:

- (1) Correctness and precision in the use of English
- (2) Refined and gentle manners
- (3) Power of reflection
- (4) Power of growth
- (5) Sound standards of feeling and appreciation
- (6) The ability to do efficiently without nervous agitation

To these I venture to add yet another trait of the *usefully* educated man: Power to marshal the world's experience in at least one field, and to use it effectively for further constructive achievement.

Engineers have, surely, the same broad, educational rights and responsibilities as other professional and non-professional men, yet amid the growing complexities and perplexities of technical education there has been, and is, a steady and strong temptation to introduce

more detailed technical courses at the expense of other background-building studies. This temptation, weighty as are the arguments for yielding to it, must nevertheless be steadily and firmly resisted. The problem of modern technical education is indeed most intricate and difficult, but other solutions must be earnestly sought, for we cannot afford to sacrifice the breadth of a man to create a too narrowly efficient machine.

II

When President Maclaurin said "A technical school is not doing its whole duty unless it keeps in the closest touch with industry", he spoke the minds of many thoughtful men.

The two outstanding industrial problems today are: (1) The more intensive application of scientific knowledge and research to the processes and products of industry; (2) the cultivation of more understanding and wholesome relations between labor and management. Both of these problems may rightly claim attention in any modern scheme of technical education. On each of these questions I wish to speak very briefly.

Of scientific research there are two more or less distinct types. Both embody the genuine spirit of inquiry; both use the same tools and instruments under similar laboratory conditions. The essential difference between them is not in method but in aim and intention. In applied science research, the controlling purpose is to reach a definite and predetermined result which can be immediately applied to the material profit, convenience or comfort of man. In pure science research, the only purpose is the discovery of new knowledge without thought of any material benefit to anybody. The fundamental discoveries from which applied science gets its raw material for useful applications come out of the pure science laboratory. That you cannot apply knowledge you haven't got needs no proving.

Take any familiar application of science you choose, and one, two, or at most three backward steps bring you to the pure science laboratory where the fact or principle employed was first discovered. Sir J. J. Thomson has said in substance, "If you want improvements in industry, you may turn with confidence to applied science. If you want to revolutionize an industry or create a new one, you will do well to search the innermost recesses of the pure science laboratory." The difference between the man of theory and the practical man is one of suggestiveness and scope.

Applied science research in the modern sense is of comparatively recent origin. What we now call pure science is centuries older. At its beginning, therefore, applied science had the accumulated results of centuries of pure science to draw upon, but, due to the brilliantly amazing progress of applied science, that surplus in many fields is nearing exhaustion.

With depleted reserves applied science must soon face one of two alternatives. Either it must descend from its past and present rapid

succession of revolutionary achievements to a more modest hand-to-mouth existence, reworking old ores and consuming next year whatever pure science, at its present working rate, may discover this; or else the hosts of pure science research must be vastly strengthened, and the volume of their yearly output many times increased.

That some of our more progressive industries already realize the situation is amply proved by the very rapidly increasing amount of pure science research issuing from the research laboratories of our optical, chemical, electrical and other highly developed industries.

Under these circumstances technical schools owe to modern industry the more intensive cultivation of research with increasing emphasis on pure science. Every possible means should be used to train up more men in pure science, men competent to enter the fruitful and important field of research, to supply the rapidly increasing demand for workers in the fast-multiplying laboratories of progressive industry.

In every fruitful co-operation between technical education and industry, our schools should be prepared to give more than they receive and to lead, not follow.

III

Under the present organization of our largest industries the conscious responsibilities of real ownership have become somewhat vague. Industrial ownership today is widely diffused and dispersed. Shares of ownership are bought and sold daily by hundreds of thousands. Certificates of ownership are often regarded by their holders more as sources of income than as symbols of responsibility.

As a working plan the rights and duties of ownership are delegated to boards of directors, and the active management of our industries rests in the hands of employees. Thus the older distinction of employer, meaning owner, and employee, meaning workman, has largely ceased in our largest industrial corporations. All are essentially employees, but of two distinct classes, brain workers and hand workers. The brain workers build up, maintain and manage the business, and direct the hand workers, as brain directs hands in the individual, with this important and sometimes vaguely realized difference, that the hands in this case are not instruments only, but independent, thinking, feeling personalities.

The older or traditional attitude toward labor unrest was that the questions involved were purely economic questions. More thoughtful and more widely informed people, and there are many of them, feel that the problem is not so simple, but involves many additional elements, chiefly those which enter into all human relationships.

Purely for the sake of illustration, let us take the case of a not uncommon type of workman who becomes dissatisfied with his job. He feels little or no loyalty to the business nor to the foreman or manager who personifies it. He understands neither the manager's work in relation to production, nor the manager's pay.

There are further enviable differences between the manager's

apparent freedom of action, his more comfortable working surroundings, and those of the laborer. The laborer fails to realize the economic reasons for these differences. The manager in his sight produces nothing, hence the laborer doubts in his heart the importance of managers and higher officials in general. From his warped outlook, wages would be higher if these men who meddle, but do no real work, were removed from the payroll.

Thus he feels little respect or liking for the management. The manager may also seem lacking in respect for a sour-tempered operative. The motives behind the simplest manifestations of good-will may be misconstrued and distrusted. Thus a mutual economic necessity is the only binding material which holds these two together, and each chafes at the bond.

Dissatisfied, the laborer shirks and hates his employment which, in this mood, is without human appeal or interest for him. Furtively shirking, he loses some of his sense of personal dignity and much of his self-respect. Sooner or later, as circumstances favor, he will try to regain a feeling of self-importance by trying with others who are like-minded a concerted conflict with the management in the form of a strike.

If the strike is won, the worker feels his course justified, his conduct approved, his self-esteem in a measure restored. If lost, he returns to his work liking it and his superiors none the better, only to wait sullenly for another trial of strength.

The laborer's indiscriminate and integrated discontent he is likely to attribute to a spectre called capitalism. Capitalism is, therefore, his enemy. This monster he attacks in the one spot where he believes its nervous system is centered — its purse. To the agitator of disorganization this mass of accumulated and unsorted discontent is his one great opportunity, and we know he is quick to make the most of it. To the typical proletarian, not the least of the attractions of a world-leveling-down program is the removal of the people he believes respect neither him nor his labor.

This brief view of the tangle of disorders and misconceptions, which may arise in a workingman's mind, shows mental states of by no means infrequent occurrence.

Now the true essence of successful industry is mutual respect between employee and manager, willing co-operation, a sense of mutual opportunity and responsibility, and a shared personal or institutional loyalty. But these factors are human rather than economic. Economic necessity alone is not only powerless to create them but oftener operates to weaken or destroy them.

Human relationships in industry we have now and always have had, and, whether recognized or not, they have caused quite as much trouble as purely economic conditions, for the state of a laborer's mind, more even than the state of his purse, determines his acts.

No industrial question is of greater importance than human relations in industry, and none is more complex nor baffling. Yet no pains can be spared, or are being spared, to find remedial measures. Many

hopeful schemes for a better human organization of industry have been suggested and are under trial, some fortunately with encouraging promise.

The dominant bearing of this discussion on technical education is this: Our technical schools are training the future brain workers and managers of industry. We may, therefore, well ask ourselves, at this time, if there is anything we can do beyond what we are now doing to train our students to understand more fundamentally and to meet more successfully the gravest of all their future responsibilities, the organization and management of men. A responsibility which they and we owe, not industry alone, but to the whole economic, social and political stability of the nation.

ALUMNI HOLD INAUGURAL BANQUET

A large gathering welcomes President Nichols and bids
farewell to Dean Burton

THE Inaugural Dinner of the Alumni Association, held on Wednesday evening, June 8, in Walker Memorial, was an occasion both joyous and sorrowful, a time for pledging allegiance to the new and mourning the loss of the old. In addition to the greeting to a new president, the dinner was the final episode in a career of forty years of service to Technology of Dean Alfred E. Burton.

Every speaker paid tribute to President Ernest Fox Nichols, and the alumni leaders pledged to him support in the name of fourteen thousand graduates. Dean Burton, who because of his wife's illness must leave the East, said in closing his final speech as a Technology official: "If Dr. Maclaurin could have named a man to carry on his work, that man would have been Ernest Fox Nichols. He was his friend, colleague and co-worker."

Nearly five hundred members of the organization came together for the occasion, and all joined in giving an enthusiastic welcome to the new chief. At his invitation they also stood together in silent tribute to the former president of the Institute, Dr. Maclaurin. The program included singing under the leadership of Orville B. Denison, '11. Amid cheers from the alumni congratulatory telegrams were read from Dr. Nichols's former associates at the Nela Park research laboratory. Another demonstration occurred when the flags of classes '20 and '21 were presented for display on the walls of Walker Memorial.

The Technology plant was in gala attire for the dinner. Every light in the massive buildings was turned on, and over the dome played a flood of colored lights in rainbow hues, while the beams of a searchlight stationed on the Boston side ranged over the entire river frontage.

A suggestion of Dr. Arthur D. Little, '85, the new president of the alumni, that the bridge over the Charles, "now known unwarrantedly as the Harvard Bridge," be replaced by a modern structure to be known as Technology Bridge, aroused great enthusiasm.

The speakers were introduced by Leonard Metcalf, '92, retiring president of the association. At the head table with him were: President Nichols; Dean Alfred E. Burton, retiring dean; Dr. Arthur D. Little, '85, president-elect Alumni Association; Dr. Elihu Thomson, retiring as acting president of the Institute; Francis R. Hart, '89, treasurer of the Institute; Edwin S. Webster, '88, member of the Corporation; Dr. Henry P. Talbot, '85, chairman of the Faculty, M. I. T.; Prof. Dwight S. Porter, retiring professor from Civil Engineering department; Reginald H. Smithwick, '21, president of the Senior Class; Desmond FitzGerald, Corporation; Arthur T. Hopkins, '97, president of the Technology Clubs Associated; Prof. Edward F. Miller, '86, Administrative Committee;

Prof. Edwin B. Wilson, Administrative Committee; Horace S. Ford, Bursar, Massachusetts Institute of Technology; Orville B. Denison, '11, cheer leader; Walter Humphreys, '97, secretary of the Alumni Association.

In opening the after-dinner proceedings President Metcalf likened the new Technology president to three of his illustrious predecessors, Rogers, Walker and Maclaurin, and congratulated the Corporation of the Institute on having searched for an educator with the qualities of leadership, rather than for a man of the administrative type who might perhaps have lacked something of sympathy with and understanding of the teacher's point of view. "To President Nichols we pledge our support," he said.

President Nichols said: "It is impossible for me to rise without the same thought in my heart as is in all of yours. We miss Dr. Maclaurin. In losing him the Institute has suffered an irreparable loss." Dr. Nichols then requested the alumni to stand with him for a moment in reverent memory of the leader whom Dr. Nichols succeeds.

Continuing, he said: "I want you to know the depth and extent of my pride in being chosen leader of Technology. Technology men have always been in my sight purposeful men, and leadership among purposeful men is a very real thing."

"We all have our visions of the Institute," he said, "and though these may be a little indefinite in detail, all of us agree in the one thing — that the object of the vision is glory. I have been wondering what the result would be if we could get a composite representation of those visions, something like a composite photograph of all Technology men. The outline would be strong, firm, intelligent, full of will, initiative and power. The details would be hazy, but the face would inspire confidence. It would be something splendid.

"It is going to be my very pleasing privilege, and perhaps also a part of my duty, to interpret this composite picture, and to try as hard as ever I can from time to time, as we gather together, to make some of the details a little clearer, a little more definite, without taking the poetry out of the vision. We must go through the forest and cut out the dead wood in order that the live wood may develop and progress and the forest become more beautiful. But these hot-headed men, and the more hot-headed the more silly they are, cry out for a clean slate on which they may draw more beautiful designs. Some of these men would even burn the forest in order that they may plant it anew. We have had a large-scale example of that in the last few years in the misery of a great nation, and the forest is still in flames. A clean slate and a new forest are things we cannot have in this world. We have got to begin where we are, and it has got to be more than a voice crying in the wilderness, more than a child crying in the night. It has got to be faith. We need strong men, capable of doing fourteen hours' work a day for altruistic purposes. We have got to reshape the world as it stands in order that there may be built the foundations of justice, righteousness and peace. The world is calling on the Institute, and it shall not call in vain."

Dean Alfred E. Burton, who is retiring after almost forty years of service at the Institute, was introduced as "the connecting link between the head and heart of Technology," and as "a model dean." The alumni saluted him with "He's a jolly good fellow." The dean reviewed the history of the Institute during his connection with it, and added: "But two things are greatly needed. One is a better co-ordination of the forces of instruction given to our first-year students, and the second need is a better housing of our students. I do not urge the erection of new dormitories, but there should be wholesome and healthful quarters, so as to insure to the students an opportunity of closer association with young men of their own age and interests while pursuing their studies."

The Dean's speech is printed in full, from his manuscript, immediately following this article.

Dr. A. D. Little, president-elect of the alumni, as his first official act pledged to Dr. Nichols the support of the body. He said that in spite of the fact that today more engineers are out of work than ever before, it was his conviction that it is but the threshold of a new day when the engineer shall be more important than ever. He said in the future the engineer would insist on scientific methods which would do away with present-day waste.

After the speaking the chairman, in accordance with the custom of past years, presented Reginald Smithwick, '21, president of the Senior Class, with the 1921 alumni banner, to hang on the walls with those of every preceding class of the Institute. Since it was impossible to procure the banner last year for the Class of 1920, presentation at this time was made also to Kenneth Akers in behalf of the Class of 1920.

The Alumni Association also presented through its president a beautiful desk and chair to Dr. Nichols for his office in Building 3. On the occasion of Dr. MacLaurin's inauguration a similar gift was made by the New York Technology Club, but this year the gift came from the alumni as a body. Dr. Nichols, obviously taken by surprise and deeply touched, responded briefly and in a happy vein.

The speeches throughout the evening were unusually successful, as the Bell amplifiers, installed for the inauguration, had been left for the ceremonies throughout the week and contributed greatly to the pleasure of the evening.

On leaving Walker Memorial at the close of the meeting the alumni joined a large crowd which was already enjoying the illuminations. In addition to more than 750,000 candle-power employed in lighting up the Technology buildings, an army searchlight with 36-inch reflector, capable of a six-mile radius, played across all fronts of the Institute from the Boston shore. All the colors of the spectrum were brought to bear in the illumination of the central dome, while the great pillars at the front of the main building were kept bathed in pink. Prof. W. J. Drisko of the physics department was in charge of the illuminating arrangements. It was Tech undergraduate night at the Pops, and many of the alumni spent the remainder of the evening in Symphony Hall.

THE DEAN'S FAREWELL TO THE ALUMNI

Speech of Dean Burton at the Alumni Banquet, June 8, 1921

THIS is the sixtieth year in the history of the Massachusetts Institute of Technology. On April 10, 1861, it was incorporated for the purpose of instituting and maintaining a Society of Arts, a Museum of Arts, and a School of Industrial Science. The Society of Arts served a very useful purpose, but has now practically disappeared from public view, and the Museum of Arts has *never* appeared. The rapid development of the School of Industrial Science, however, showed emphatically that this part of the plan met a public need.

In 1865 the Institute opened with fifteen students, and within the lifetime of some of these first students, now has an enrollment of thirty-five hundred. The mere increase in numbers, however, is no indication of the value of this school to the community. From the beginning it has never made a conscious effort to increase its enrollment. It has on the other hand very conscientiously and thoroughly eliminated students who did not reach its exacting standard. In spite of the Procrustean bed of its curriculum, and in spite of the determination to make every one conform to its dimensions, the number of victims voluntarily subjecting themselves to its restrictions steadily increased. Whatever faults critics may find with reference to Technology methods and procedures, the public applauds its work, and its surviving pupils spread its fame.

But there has not been a steady curve of growth. There have been depressions and elevations in the line that plots Technology's advance. It has advanced, however, and its advance is mainly due to its loyal sons. The fame of the Institute is due not so much to its teachers, or its Corporation, as to its Alumni. It is a fame based not upon words, but upon deeds, and as they scatter themselves over the world the Alumni carry Technology's name with them. The farther they go from Boston the louder they sound its praise, and the most sceptical and pessimistic observer will have to admit that in the engineering world at the present time the name of the Massachusetts Institute of Technology is a name to conjure with. Call it the Institute, call it M. I. T., call it Boston Tech, call it Technology on the Charles, whatever you will, it is the place where the modern novelist sends his hero for an engineering education.

The Alumni do not forget that every time they have won out in each of the crises that have faced them it is because they have stood for an independent Institute of Technology. We stand for a different idea in human education; an idea that may not represent the highest ideal for youthful development, but an idea for which the world was ready, an idea for which there was a great demand. The Institute stands for a stern attitude towards life and towards the treatment of youth.

Its founder, Rogers, when meeting the new students said (with that courtesy that always characterized the Southerner) "You are school boys no longer. You now stand on the pedestal of young gentleman." President Walker, succeeding Rogers said, "This is a place for men to work and not for boys to play." It has always been the aim to thrust responsibility on the student, rather than to protect and guard his youthful days. When a graduate of the Institute enters the business world he does so with much less of a shock than does the average academic youth.

As the number of students increased it was found more and more difficult to ignore the private life of the undergraduate. It was a great temptation for the authorities to take up the ancient parental attitude of the academic colleges, but fortunately the students rose to the occasion and began to govern themselves, and to invoke the aid of graduates, and so well have they conducted their affairs in fraternities, in dormitories, and in all the various activities, that the Faculty up to the present time have been able to resist the temptation to interfere. The results of self-regulation, or self-government at the Institute have lately been brought to the attention of the public and to other colleges by an Intercollegiate Conference held this year. There is an educational development in the student life of Technology which cannot be ignored. It is one of the things that counts in later engineering life.

I personally believe that the Institute today is in a better position to carry on its work successfully than at any previous period in its history. Its new course in Engineering Administration, its co-operative work in the Electrical and Chemical Engineering courses, and especially the admirable way in which the Technology Plan is now being handled, are departures along the educational and administrative lines that make for progress and stability.

There are two things, however, that appear to me to be greatly needed at the Institute. One is a better co-ordination of courses given to our first year students. The first year instruction, to my mind, is now the weakest point in our educational program. We need a director for our first year work who will stand in the same relation to the first year as the head of a department now does to instructors and students in his department. He should carefully scrutinize the work of all the teachers and should be consulted in their appointment.

The second need I have often urged to both the President and Corporation. This is the need for a better housing of our students. I do not urge the erection of new dormitories in order that we may exercise a greater paternal care of the young men, but rather to insure wholesome and healthful quarters for students coming to us from a great distance, and to assure to these students an opportunity of closer association with young men of their own age and interests while pursuing their studies.

I leave the Institute with optimistic views for its future, feeling that we can trust in our Alumni to aid its progressive development. During the presidency of Richard Maclaurin the Institute reached one

of the highest points in its career of progress. Maclaurin was fully alive to all that was distinctive in the educational ideas of the Institute. By the erection of these buildings and the securing of the endowment fund he made her individuality secure for many years to come. If President Maclaurin could have suggested a man to carry on his chosen work, I believe that he would have named Ernest Fox Nichols. He was his friend and scientific colleague and co-worker along educational lines.

THE NEW DEAN

PROF. HENRY P. TALBOT, '85, head of the Chemistry Department and chairman of the Administrative Committee since the death of President Maclaurin, has been chosen acting dean to succeed Dean Burton, who has been granted a leave of absence after having held the post since 1902.

Harold E. Lobdell, '17, who has been office manager for the Division of Industrial Co-operation and Research, was chosen to assist Professor Talbot.

Professor Talbot was graduated from the Institute in 1885. Instead of entering the chemical industry for which his Technology course fitted him, he prepared himself for the teaching profession and became an instructor. He remained at the Institute a short time and then took his Ph.D. at Leipzig in 1890. Returning from Germany, he was made an assistant professor and in 1902 was placed in charge of the Chemistry Department and made a full professor. He has been for the last two years chairman of the Faculty. He will continue in charge of the Chemistry Department.

DEAN ALFRED E. BURTON

BY ARTHUR G. ROBBINS, '98

Professor of Topographical Engineering, M. I. T.

THE withdrawal of Dean Burton removes from active participation in Institute affairs one who has done much to formulate the work, and influence the character of the student life and activities for nearly forty years.

Dean Burton came to the Institute in 1882 as instructor in topographical engineering, a work for which he was specially fitted by temperament, by education and by training.

Endowed by nature with an artistic temperament most essential in the representation of topographic forms, trained at Bowdoin College by Prof. George L. Vose, one of the early and justly famous teachers of engineering and surveying, he then served an apprenticeship of three years in the employ of the United States Coast and Geodetic Survey, where, for a time, he was under the guidance of Mr. Edward Hergeheimer, one of the most skilled topographers connected with the Survey.

The year 1882 was a time of comparatively small things at the Institute. Then the whole student body numbered considerably less than four hundred. Instruction in Civil Engineering was given to the forty students in the department by three teachers, Prof. George L. Vose, who had the year before been made the head of the department; Prof. George F. Swain, and the subject of this sketch, Alfred E. Burton.

For the next twenty years, up to the time of his appointment as dean, Professor Burton had charge of the instruction in plane and topographic surveying, topographical drawing, and geodesy. In addition to this work for a number of years, he assisted in first year drawing. For a time also he taught advanced geometrical drawing to students of the Civil Engineering Department.

When the geodetic option was established, he took entire charge of the instruction in the advanced surveying and geodesy given in that course and did much to broaden and improve the courses of instruction in that branch of science.

It was while giving these courses that a number of improvements in the methods of measuring base lines with long steel tapes were made under his direction, notably a method of determining the temperature of the tape by measuring its electrical resistance. By this method, the error in length, due to uncertainty of the temperature correction, was so much reduced as to be practically negligible.

Professor Burton originated and organized the summer course in topographic and geodetic surveying, and, for a number of years, took personal charge of the instruction in that course. In this way it was

possible to give much more thorough and practical instruction in the various field methods of mapping topographic details. His map of Mt. Moosilauke, made for the Appalachian Mountain Club, in co-operation with a few Institute students; that of the Sargent Estate in Brookline; and a map of the region about Keeseville, N. Y., to mention only three, are models of their kind in accuracy of detail and excellence of representation.

In the summer of 1894, Professor Burton was employed by a number of citizens of Boston, who were then opposing the construction of the Charles River Basin, to investigate and report on the Alster Basin at Hamburg, Germany. Little did he then realize that the construction of that basin was a forward step in making practical the site upon which the New Technology now stands.

When Lieut. Robert E. Peary, a college mate and lifelong friend of Professor Burton, was organizing an expedition to Greenland for the purpose of bringing to the United States the great Cape York meteorite, he asked his old friend and companion of college days to organize a party for the purpose of making some scientific investigations which could best be made in that glacier-covered region.

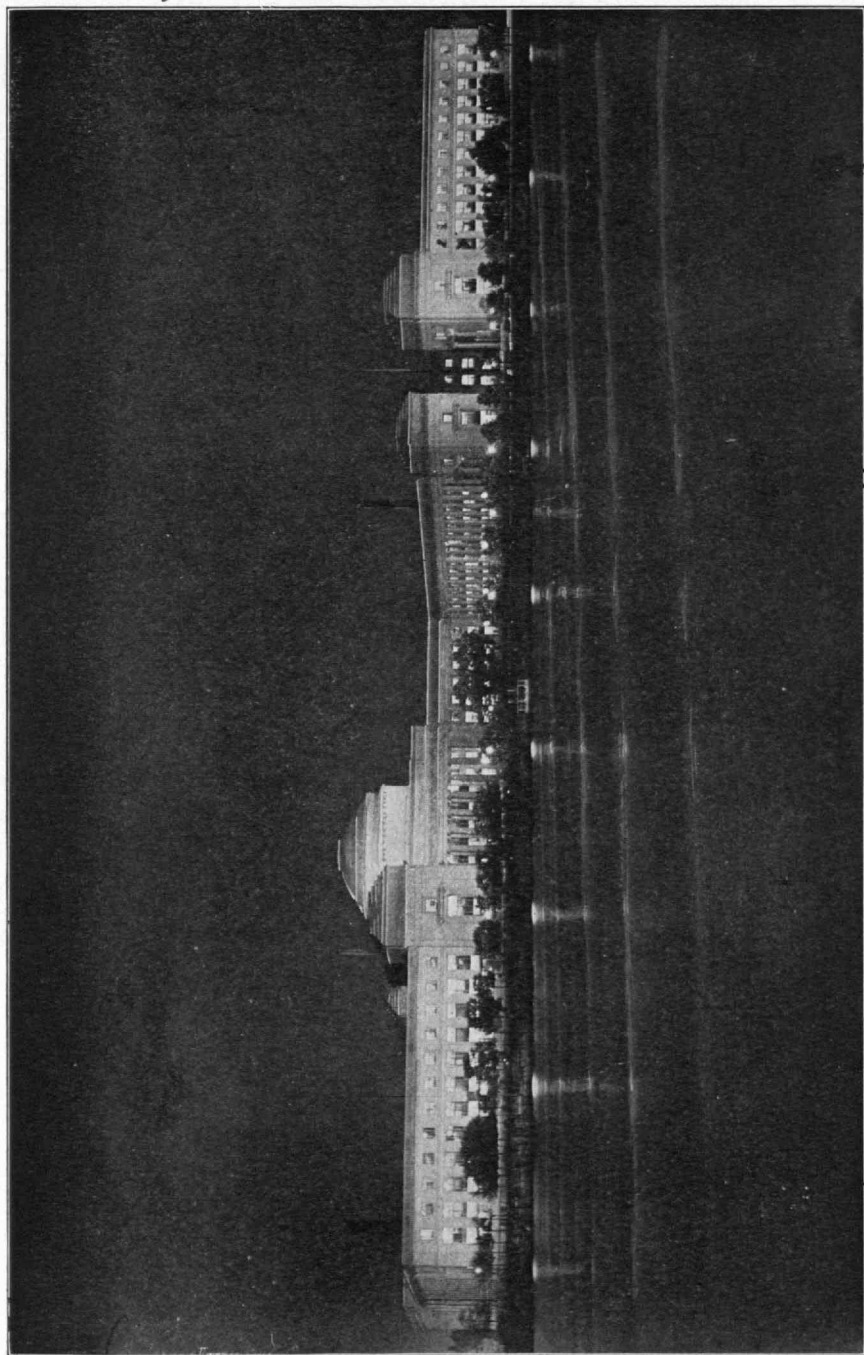
The opportunity was eagerly accepted, and a party organized with the primary object of making geodetic, magnetic and geological studies. Through the efforts of Professor Burton, the Superintendent of the United States Coast and Geodetic Survey detailed an observer, and loaned the necessary instruments to make pendulum observations to determine the force of gravity. Observations of this character made at widely different places on the earth's surface furnish a means of determining the shape of the earth. Up to this time, few if any observations of this character had been made at so great a distance from the equator.

These observations, taken in connection with others made a few years later by members of another expedition to Sumatra, also organized by Professor Burton, made a valuable addition to the data available for studying the shape of the earth.

Prof. George H. Barton, at that time a member of the Geological Department of the Institute, was able to gather valuable data regarding the influence of ice and streams of water in shaping geologic forms. In addition to this work, observations were made to determine the magnetic declination and dip at various stations on the Greenland and Labrador Coasts.

The total eclipse of the sun on May 28, 1900, was the first that had been visible from points near the Atlantic Coast since 1869. Astronomers and educators, generally, were anxious to observe this most interesting phenomenon.

Through the influence of Professor Burton, the Corporation of the Institute, in the fall of 1899, appropriated a sum of money to enable him to organize a small party to make observations during the time of totality. Washington, Ga., was selected as a place favorable for observation, because of its accessibility, its proximity to the center line of totality and because of its probable freedom from clouds at that season



ILLUMINATION DURING INAUGURAL BANQUET, JUNE 8, 1921
From Boston Transcript

of the year. Observations at this place were also made by parties from Harvard University, the Blue Hill, and the Flagstaff, Arizona Observatories. All of the work planned was successfully accomplished under ideal conditions of location and weather.

Excellent sketches and photographs of the Corona were made, the times of the four contacts determined, and observations were made to determine any change in magnetic declination during the eclipse.

One interesting bit of information regarding the reliability of maps made independently of geodetic control was obtained at this time. Careful astronomic observations showed that the best maps then available located Washington, Ga., more than four miles from its true position.

The success of this expedition not unnaturally stimulated in Professor Burton the desire to see the total eclipse of 1901, which was remarkable for the length of the time of totality and which, because of this, offered exceptional advantages for making those observations that can be made only during a total eclipse. The eclipse in 1901, visible in the East Indies, was of nearly six minutes' duration — that of 1900 at Washington, Ga., was of less than one and a half minutes' duration. Professor Burton therefore requested, and obtained, a leave of absence for the purpose of organizing an expedition to observe this eclipse, which occurred on May 18.

A location some one hundred miles in the interior of Sumatra at Sawah Loento was selected for the observations. Unfortunately the path of totality of this eclipse passed over a region of the earth where there is much cloudiness and rain. The selection of Sawah Loento was, however, quite fortunate and excellent results were obtained, although there was some cloudiness during a part of the time of eclipse. It was on this expedition that the pendulum observations for measuring the force of gravity, mentioned above, were obtained. In the journey to and from Sumatra, the expedition made a complete circuit of the globe.

It was soon after his return from Sumatra that President Pritchett, realizing the growth of the Institute made a readjustment of administrative office necessary, asked Professor Burton to become the first Dean of Technology. Reluctant as he was to relinquish his work as a teacher, in which he had been conspicuously successful, the duties of the new position, with their relation to the formation and development of character in the student body, appealed to him strongly. He therefore accepted the task at which for nineteen years he has labored unceasingly with Faculty, Alumni and students, striving to establish in the student body an *esprit de corps* founded on truth, uprightness, effort and intelligence. In aiding these efforts, he has assumed it to be fundamental that the student body was at heart clean, fair-minded, capable; and that under reasonable guidance and suggestion, it would formulate and control its own activities with better grace and more successfully than could be done by any fiat of Faculty, direction of Dean, or ecclesiastical admonition.

He has seen laid a foundation for a student control of their own

activities and college life. That foundation is square and straight and true. May generations of students that the Dean cannot know, guided and encouraged by other minds, as he has guided and encouraged the students of today, finish the structure, classic in form, strong in column, in arch, and in dome, as is that foundation on which it is to stand!

— *The Tech Engineering News.*

TECH MEN AT AMERICAN CHEMICAL SOCIETY MEETING

Permanent organization arranged

As a matter of news in case it has not come to you already, I wish to state that at the meeting of the American Chemical Society in Rochester, a special effort was made to have all the Tech men present get together. A very successful dinner was arranged by the Rochester Technology Club, which was held in the rooms of the Rochester Club on the evening of April 26. About one hundred Tech men were present.

Addresses were made by Dr. Talbot, Dr. A. D. Little, Professor Wilson, both the President and Secretary of the Technology Club, and the writer.

Attention was called to the fact that whenever the American Chemical Society held a meeting, the graduates of the various colleges should get together at either luncheon or dinner and have a reunion. It was suggested that some such organization be started by Technology men, and that a committee be appointed to see to it that at future meetings of the American Chemical Society, there should be a Tech function of some sort. As a result of this suggestion, the writer was unanimously appointed chairman of a committee of his own choosing to carry the details into effect. The office sought the man, not the man the office.

Please call attention to the fact that there will be some kind of a Technology get-together at the meetings of the American Chemical Society. — *Davis Wesson, '83, V.*

TO THE DEAN

(With the usual to Mr. Kipling.)

If you can hold your job when all about you
Are running loose in circles, round the Stute,
If you can show them they can't do without you
And you are not the one they ought to shoot,
If you can calm the Registrar and Bursar,
The Corporation and Alumni, too,
And when it looks like things could not be worsen,
Prove quietly that two and one make two,

If you can teach Geodesy and Mapping
And nail down every stream and mountain range,
If you can catch the equinoxes napping
And snap them with a sextant ere they change,
If you can chart the Polar geographics
And Meteorologistics, like as not,
If you can deal with occult mathematics,
Distinguishing the whichness from the what,

If you can make surveys of East Machias
And topographify the summer camp,
Yet keep the youthful Civics prim and pious
And well protected from the summer vamp,
If you can take a trip to far-off Malay
To shoot the sun and hit it, what is more,
If you can lend a hand to Frank Kanaly
When freshmen in the Gym are getting sore,

If you can stand a banquet in the Walker
An average of six evenings in the week,
If you can prove yourself a constant talker
And yet *say* something every time you speak,
If you can eat the Walker menu nightly
No matter if creamed chicken often palls,
And when the ice cream's done its worst, rise lightly
And lift your voice through these historic halls,

If you can keep the Faculty in order
And stand between the students and Vote 10,
If you can calm the Faculty marauder
Who wants to *kill* a student now and then,

If you can quiet a parent in his rages
 Because his oldest hopeful got the gate,
 If you can tell a Junior that the wages
 Of sin is Prob. — and get him to stay straight,

 If you can find some fellow sick and lonely
 In rotten lodgings where nobody cares,
 And, somehow, make him feel he is the only
 Student that Humphreys mentions in his prayers,
 If you can keep on talking dormitories
 Till some day we may have them — thanks to you!
 If you can tell the other Deans your stories
 Of all that student government can do,

 If you can be a gentleman and scholar,
 And never lose your temper or your tact,
 If you can let the others raise the holler,
 And hold your own ideas, and plan, and act,
 If you can give a score of years to raising
 An edifice that stands four-square and clean,
 Beyond our criticism and our praising —
 Why then, your boys will know that you're SOME DEAN.

R. E. R.

Read at the Senior Dinner, June 7, 1921.]

TECHNOLOGY IS REPRESENTED IN THE U. S. SENATE

TECHNOLOGY is represented in the United States Senate. General T. Coleman du Pont, '84, president of the Alumni Association of the Massachusetts Institute of Technology, 1919-1920, has been appointed United States senator from Delaware by Governor Denney to succeed Josiah O. Wolcott, who resigned to become chancellor of Delaware.

General du Pont who is the Delaware member of the Republican National Committee, will serve the unexpired term, which runs until March, 1923.

DEANING AS A FINE ART

THEY were two undergraduates, freshmen, strangers in the East, living in lodgings and consequently rather lonely and out of sorts with the world. Somehow they had met the Dean, and somehow he had invited them to call this evening, in the Christmas vacation when the school was deserted. And from what little they knew of college deans they had judged it politic to accept. So here they were, shy and a bit defiant, finding their way up the little lane of fir trees to the little house in Newton Centre. In, as they expressed it, for a hard evening.

The house was ablaze with lights, the house seemed alive with children, all vocal; somebody was making a great racket on the piano. They rang, the door opened, and they fell back aghast. They were simple western boys, unused to the splendors of college officials in the east. In the doorway stood a tall and massive footman, dignified and well nourished, in crimson livery, knee breeches, white stockings, powdered hair.

"What names, please?" asked the apparition.

They gave them weakly and followed him into a large well-used room filled with children and young people in fancy dress, a Christmas tree, a few other Tech men obviously greatly tickled at something. They were presented to Mrs. Burton, mistress of the revels, in vivid, flame-colored things and barbaric ornaments. It was a Twelfth Night party, she explained, and they would find something to put on upstairs. Take anything they could find. The madder the better.

"This way, please," said the Footman haughtily, and as they turned meekly to follow him, one, the quicker witted, saw a great light. "You poor fish," he whispered, punching the other in the ribs. "It's the Dean!"

And what Homer used to call unquenchable laughter arose from the other Tech men who had been waiting for the moment. It *was* the Dean! From that moment they ceased to be lonely freshmen and became part of a tradition, the tradition of which the Dean and Mrs. Burton had made many boys like themselves free. They ransacked upstairs and devastated the house to find costumes weird and colorful enough for the occasion, assisted by the Burton children, the children of the neighborhood, the older girls, and the visiting Tech men. They returned downstairs like Solomon in his glory. And they threw themselves into the Twelfth Night revels, the revels of Old England, which Mrs. Burton kept alive in the new world, until you never would have imagined they had been raised as Baptists somewhere in Nebraska. They played the old games, they footed it, clumsily but courageously, in the morris dances and the game of Romans and Britons, they even tried to sing.

Presently they ransacked the house again, from kitchen to garret, for properties for the noble *Commedia del Arte*, the extemporary plays

modelled on those cherished for centuries by the strolling players of Italy and France, the very originals of Punchinello and Harlequin, Columbine and Pantaloon. Mrs. Burton gave them the fable — say the Frenzied Poet — and they acted it out for themselves, making it up as they went along, more in the George M. Cohan manner, perhaps, than the classic, but screamingly funny.

And when they were dead beat and fatigued with laughter, the Dean set up his little marionette theatre, the darling of his heart, a family enterprise for which Mrs. Burton devised the little plays and the Dean drew and cut out and carved and painted the scenery and characters, and engineered the lighting; and with the Dean to pull the strings, and each part given its appropriate voice, they played the old, old Mystery, almost as it might have been played in York or Chester fifteen centuries ago, the Nativity according to St. Luke.

And then they sang Christmas carols and went home, ushered to the door again by the Footman, who had remained footman throughout the evening, keeping to his part with the relish and gusto of a true artist, formal, unapproachable, more deanlike than he had ever been known to be in his office.

That was the sort of thing the Dean and Mrs. Burton did for generations of Tech men, until the mistress of the revels must leave our bitter climate for the warmth and health of Carmel-by-the-Sea in California, whither the Dean now follows, to be with her and the children. That was the sort of thing they gave the children of the faculty at the annual May Party in the President's house and garden, with another gracious hostess now no longer with us. And, one may say, it was the spirit of those gatherings, where those two taught our hard working, shy, lonely, unimaginative boys what it was to be really children, what it was to revel, what it was to have a tradition of merrymaking — it was that spirit, one may say, leaking over and permeating the Dean's official life that made his deanship probably unlike any other deanship in an American college.

I recall one dean in a small college not so far away, who was popularly suspected of keeping spies in the small city near the college, to which one resorted for theatres and dinners and liquor, and who was supposed to receive full reports from those spies, not only of the undergraduates' doings but the instructors' as well. It doesn't matter so much whether the rumor was true or false; it was generally believed and it settled the hash of that dean in the students' minds. And if one were to ask the average undergraduate of the average American college what the word "dean" connotes, ten to one he would reply: "Spy, overseer, minister of justice, secret police, petty tyrant."

It is one of the unique glories of Dean Burton that no Tech man was ever heard to say that; he was rather the mediator, the friend, who stood between the hapless undergraduate and the Minos and Rhadamanthus of the faculty. And, in consequence, it was a wonder he ever had an evening at home with his family. No gathering was complete without him, no dinner, smoker, official or unofficial festivity

could close without a word from him. I have known only one other so beloved. For years at Harvard Le Baron Russell Briggs has been "the dean", unique and not to be mistaken for any other of the raft of deans that infest that university, the understanding friend of the boy, the spokesman for the undergraduate life, the champion of athletics. As Briggs was the Burton of Harvard, so Burton was the Briggs of Technology. I cannot at this moment think of a higher compliment.

I need not here speak of his great achievement, to which during the last few months tribute has been paid over and over again. Suffice it to say that he took literally those early words of General Walker, which he was so fond of quoting, "This is a place, not where boys may play, but where men may work," and gave it a far wider application than perhaps the speaker ever imagined, an application which made Technology the pioneer in the country in the idea of teaching students to take their activities seriously, to work at them as businesses, to be managed on business lines, with full responsibility taken, with everything accounted for, so that at Technology it is really true, as it is only partly true at other places, that in a properly managed college participation in activities is equivalent to not less than twenty-five per cent of the actual value of the whole college course, in discipline, in business experience, in handling men and co-operating with them, in adapting the world as it is to one's own legitimate purposes. The curriculum is too often only theory; activities properly managed by the men themselves are both theory and practice of the most instructive kind. And the making secure that condition of affairs at the Institute is as fine an accomplishment, and in the long run, perhaps, unimaginably more useful than the scientific work the Dean laid down when he began his work in Human Engineering.

One fruit, not the least, is that closely knit, harmonious, efficient triple alliance of Faculty, Alumni, and Undergraduates, which in the past few years has helped to solve some of our most perplexing problems and will, if allowed to continue in the spirit of the men who originated it, do still greater work.

And this last spring the Dean saw the seed of his labors spread abroad, to take root in other institutions across the country, when from fifty colleges the representative students gathered at Technology to exchange views on student government and to learn that here was freedom and responsibility, but freedom that was never license, and responsibility that was shared but not dictated. One wishes that other dean — he's now a college president somewhere — could have seen and, like Thomas Didymus, believed.

And, withal, our Dean never lost his dignity, he was never razzed in an unkindly spirit, he never condescended, was never aloof, or petulant; it never seemed an effort, though often it must have been, to be so continually with the men; to understand them, to separate the essential from the inessential, to praise or reprove the essential and let the inessential go as of no importance. It never seemed an effort, as it surely must have been, in the days before the medical service was instituted,

to keep track of the boys who were sick and lonely, to get doctors for them and visit them, at how great a sacrifice of time and strength nobody knows, to find the boys who were badly lodged or in the wrong neighborhoods or the wrong company, to keep track of the foreign boys, who so often were entirely on their own responsibility in a strange city, and to try to give them something of our American home life and companionship. It never seemed a task to this man of splendid strength, who wore his years so lightly, who kept his temper and his courage and his enthusiasm, and, above all, his humor, so unquenchably alive.

He was to be seen at his best at the Walker Club, which was perhaps his favorite among Technology societies, for it grew from the personality of General Walker, whom he wished always to keep alive in the imagination of those who never knew him. It was the Dean who kept the Walker Club alive, after all, and his oft-repeated story of its founding and the tradition it implied, of comradeship between student and instructor, of an interest in the things of the spirit and of the arts, was of prime importance in maintaining that tradition. And the last meeting, in the dusking spring woodlands, where, after a camping supper in the firelight, the boys, quite in the spirit of his own *Commedia del Arte*, burlesqued his past adventures, with Peary in the North, in Sumatra taking the eclipse of the sun, and then after listening to one of his clear-cut characteristic little speeches, toasted him and sang to him — that last meeting will not be soon forgotten by those who were fortunate enough to participate in it.

It was only one of dozens of such farewell meetings. I suppose every organization in the Institute gave him a send-off. He called them his obituaries and vowed that he was fortunate in hearing them while he could enjoy them. And he was. For no man ever heard more good spoken of him, more good will and friendliness expressed than did the Dean from these boys who looked on him not so much as an officer of the Faculty retiring, as a well-understood, well-beloved, infinitely companionable elder brother — setting out on new adventures.

And the responses he made! I heard several — at the Walker Club at the freshman dinner, at the senior dinner, at the inaugural banquet — and I could not help but notice their freshness, their variety, their clearness and spontaneity, and above all, their never failing cogency and wisdom. He had been making them steadily for two months, I suppose. For that matter, he had been making them steadily for twenty years — and the spring had never run dry. His voice still lifted quietly, but clearly and compellingly, saying the things men need to have said to them and wish to have said to them. He said things this generation will remember as he remembered the sayings of Rogers and Walker.

In the sketch reprinted in this issue from the *Tech Engineering News* Professor Robbins called him an artist. That is the happiest and truest thing that has yet been said of Dean Burton. He was an artist. He was an artist using the tools of science, and, later, the tools of human relationships. He loved to create in art; he loved the masquerades and

merrymakings at his home, his little marionette theatre he spent so much care and pains upon; he loved, apparently, to dress up and see others play a part; he loved to see people come out of their shells and create, for their own pleasure and happiness. He loved to create, but better he loved to encourage others to create. And in that he was the finest artist of all. Lots of people can teach science and engineering and things; lots of people can be good administrators and efficient deans. But the man who is an artist in an inartistic job is one in a million. And that is Dean Burton — a long life to him and happy days! — a creative artist in teaching men how to live.—*R. E. R.*

KENNELLY FOR EXCHANGE PROFESSOR

ARTHUR E. KENNELLY, director of electrical research at the Massachusetts Institute of Technology and professor of electrical engineering at Harvard University, has been selected as the first exchange professor from the engineering and applied science fields between this country and France. He sailed from New York, June 9, under the auspices of a committee of American universities. The French have selected for their first representative Prof. J. Cavalier, rector of the University of Toulouse and an authority on metallurgical chemistry. He will come to this country in the fall and divide his time during the academic year among Columbia, Cornell, Harvard, Johns Hopkins, Massachusetts Institute of Technology, Pennsylvania, and Yale.

THE DEAN'S PAST REVEALED

An enterprising reporter and a false friend — "of moving accidents by field and flood."

IN the dean's office at Massachusetts Institute of Technology are two stuffed beavers.

The pedestal on which they are mounted is a section of a real beaver dam.

They are the mascots of the institution, symbolizing as they do, industry and engineering skill, and they typify, too, the spirit of Prof. Alfred E. Burton during the nineteen years that he has been dean of the Institute, which office he has just resigned because of his concern over the ill health of his wife who is in California.

"I've just worked like one of those fellows," he said quietly, as he pointed to the stuffed beavers, when I stepped into his office the other afternoon and asked him to tell me all about himself.

"Nothing has ever happened to me that hasn't happened to most men, I guess, and I haven't done anything other men couldn't do as well or better," he said, smiling.

He smiled a good deal during my chat with him, but talked very little about the things I wanted him to talk about.

A modest man is Dean Burton, but let's see how modest is he who has been a father and adviser to the students of "Tech" for so many years; whose tolerant and fair disciplinary methods, genial ways and cordial, unaffected interest in those young men have to an unusual degree made them love and respect him; and whose faithfulness to the highest ideals of the Institute has made his influence of such a character that it is highly esteemed by graduates and faculty of the school.

Something did happen to Dean Burton that hasn't happened to most men, I guess. He was rudely awakened from sleep once and had to grapple for his life in the darkness with a man who took him to be a polar bear.

Prof. George H. Barton, for several years in the department of geology at Technology, now director of the Teachers' School of Science at Harvard, and a close personal friend of Dean Burton for many years, told me the story as we sat in the Children's Museum at Cambridge, where he is in charge.

It happened in North Greenland. Dean Burton was born in Portland, Me., in 1857, and while a student at the engineering school of Bowdoin College, from which he graduated in 1878, he roomed with Admiral Peary.

At Admiral Peary's suggestion he organized, in 1896, an expedition to Umanak, North Greenland, and the pendulum and magnetic observations he took there are among the most valuable scientific accom-

plishments that have ever been made in the Arctic regions. Admiral Peary, then Lieutenant Peary, was a member of the party, as was Professor Barton.

While making their observations on the inland ice one day the scientists caught sight of a polar bear and naturally there was some conversation about the ferocity of these monster denizens of the "great white silence" as Jack London calls it.

After their labors that day — it was in the summer time when the sun shines the full twenty-four hours in the Arctic — the members of the expedition pitched their tents where they were to get some sleep.

Dean Burton had as his tentmate one of his pupils at Technology, and evidently the polar bear that he had seen reappeared to the young man in his dreams for he had a terrible nightmare, or more properly speaking a "day-mare", in which he imagined that he was being attacked by a polar bear. In his struggles he happened to touch the bear skin covering Dean Burton and this evidently intensified his sensation of being attacked by a bear, for he began grappling with his mentor.

Sound asleep when the attack came it was only by exerting all his strength for several minutes that Dean Burton managed to release himself from the grip of the young man, and the commotion woke up everybody in camp. Professor Burton had many of his delicate instruments in the tent, but fortunately these were not broken in the rumpus.

When the student was finally fully awake and learned of what he had done he cried as though his heart was broken, but Dean Burton soon comforted him and cautioned everyone in the party not to mention the incident again for fear of hurting the young man's feelings.

"Burton was one of the best companions imaginable on a rough trip, always thoughtful of others, ever ready to bear the brunt of the work, courageous and jovial at all times," said Professor Barton. "But imagine such a mild fellow as Burton being taken for a ferocious polar bear!" he laughed.

"Even the elastic imagination of a newspaper man doesn't stretch so far," I said.

"We were constantly on the outlook for polar bears on that Greenland trip," continued Professor Barton. "I recall one time I was sharing a tent with Burton when I was awakened by the rattling of our food tins. Immediately I concluded there must be a bear prowling around and got out my dirk to slit the tent and slip out if Mr. Bruin poked his nose in under the tent flap.

"Are you awake, Burton?" I whispered.

"Yes", he said.

"What are you going to do if that bear comes in our front door?"

"Slit the tent with my knife and go out by the back door," he replied, chuckling.

Later we discovered the rattling of the tins was caused by the wind and not by a bear."

Oh no, "nothing has happened to Dean Burton that hasn't happened to most other men."

He told me himself a little something about that trip to North Greenland many years ago.

"Well, our steamer came very near to being crushed, when two gigantic icebergs crashed together a moment after we had passed between them," he said, as though that was not a real adventure, "and the sight of the great glacier, five miles wide, the centre of which was moving at the rate of five miles a day, was thrilling. A view of one of these great ice sheets is as good as a moving picture show. There is something going on every minute."

Let's see now if Dean Burton hasn't, as he says, "done anything other men couldn't do as well or better" than himself. In 1900 he organized an expedition to observe a total eclipse of the sun at Washington, Ga., and the following year he led an expedition of Technology men to Sumatra to observe a similar phenomenon.

He became connected with the United States Coast and Geodetic Survey in 1879, when he was chosen after a difficult competitive examination to be a topographer. In 1880 he volunteered to go to Memphis, Tenn., in connection with the laying out of the sewerage system, a post of danger because of the yellow fever epidemic, and later under his direction a base line apparatus was developed by Technology students which proved of great value to the survey.

In 1894 he was sent to Germany by some citizens of Boston to report on the Alter Basins of Hamburg, and since 1905 he has been one of the overseers of Bowdoin College.

Dean Burton began his career at Technology in 1882, when he accepted the post of instructor of civil engineering, with the understanding that he should pay special attention to topographical engineering. Two years later he was made assistant professor and in 1896 became a full professor of topographical engineering at the Institute. When the position of Dean was established in 1902 he was selected to fill it.

During the war Dean Burton was in charge of the free naval schools of the United States Shipping Board, a task which he completed most satisfactorily. He is a fellow of the American Academy of Arts and Sciences, American Geographical Society; member of the American Society Civil Engineers, Astronomy and Astrophysical, Society of America and the Technology and University clubs.

A modest man indeed is Dean Burton. He would rather talk about the stuffed beavers in his office than about himself and his achievements.

"These are the mascots of Technology. I have become greatly attached to them. They have been a source of great inspiration to me," he said, stroking their sleek fur tenderly with one hand and beckoning me to advance and examine them.

"It was Lester D. Gardner, '98, now president of the Technology Club of New York, who first proposed making the beaver the mascot of the Institute," he explained.

"And why did the beaver appeal as being an appropriate symbol to express the spirit of the school?" I asked.

"What could be more appropriate for such a school as this?" he replied, with a twinkle in his eye. "The beaver is the most industrious of animals. He works at night and is an engineer." — *The Boston Post*.

THE '96 ANNIVERSARY GIFT

A useful precedent set — one followed elsewhere

At the twenty-fifth anniversary reunion of the Class of 1896 in June, of which a full account will be found in the class notes, the class took formal action toward raising a fund, to be called *The '96 Class Scholarship Fund*, the income of which is to be used for undergraduate scholarships, preference being given to descendants of '96 men and to men starting their Institute course in the freshman year.

Pledges amounting to nearly \$5,000 were secured from the men present at the reunion, and this will undoubtedly be doubled by a canvass of the class.

It is believed that this marks the first action by any Technology class to commemorate its twenty-fifth anniversary by the presentation to its alma mater of a substantial and permanent memorial of the event. This custom is honored in many other colleges, as at Harvard, where the twenty-fifth year class has for many years pledged a hundred thousand dollars to the endowment fund. The Class of '96 has therefore set an example worthy of being followed by succeeding classes and one that should be of lasting benefit to the Institute.

THE APRIL COUNCIL MEETING

The students report on the Student Government Conference—the
Dean says goodbye

THE eighty-fourth meeting of the Alumni Council was held on April 25, after dinner in the Walker Memorial with an attendance of fifty-four, President Leonard Metcalf, '92, presiding.

The first business on the program was the report on the annual ballot by the Executive Committee. There were 1694 ballots cast and the following officers were elected: President, for one year, Arthur D. Little, '85; vice-president, for two years, Merton L. Emerson, '04; secretary-treasurer, for one year, Walter Humphreys, '97; executive committee, for two years, Charles W. Aiken, '91, Allan W. Rowe, '01; representatives at large on the Council, for two years, Edward P. Brooks, '17, Harry J. Carlson, '92, Nathan Durfee, '89, Charles R. Main, '09, Charles P. Weatherbee, '91.

The following men were nominated for Term Membership on the Corporation: Van Rennselaer Lansingh, '98, Frank L. Locke, '86, Leonard Metcalf, '92.

The following were elected to represent their respective classes on the Council for the next five years: C. Frank Allen, '72; Richard A. Hale, '77; James P. Munroe, '82; Henry F. Bryant, '87; Leonard Metcalf, '92; C. W. Bradlee, '97; F. H. Hunter, '02; Lawrence Allen, '07; Harold E. Kebbon, '12; John M. DeBell, '17.

Besides these elections, the Special Committee on Nominations for the Advisory Council on Undergraduate Activities made report, the acceptance of which resulted in the following elections: Athletics, H. S. Benson, '12, until 1924; publications, H. D. Peck, '13, until 1926; budget and finance, A. R. Stubbs, '14, until 1924; Tech Show, Roswell Davis, '05, until 1924; musical clubs, H. O. Davidson, '20, until 1924.

H. E. Lobdell, '17, was appointed to the Publications Committee to fill out the term of Andrew Fuller, '95, resigned.

No nomination was made for the Advisory Council on Walker Memorial, as this council has only recently been appointed.

Announcement was made that the next and annual meeting of the Council would be held on May 23 instead of May 30, a holiday, after which President Metcalf read extracts from the telegram received from Dr. Nichols, the new president, in answer to the message of congratulation sent him in the name of the Alumni; a letter from the Cleveland Technology Club was also read giving an interesting account of a dinner given Dr. Nichols by the Club, his first Technology function.

In accordance with a request of Professor Spofford, chairman of the Joint Committee of Faculty, Alumni and Undergraduates, to take care of Junior Week and other matters, it was voted that so far as the

Council was concerned, the committee should continue its work, and the Council representatives should continue to act in accordance with their instructions to co-operate as far as possible with Faculty and student body.

Professor C. L. Norton, director of the Division of Industrial Co-Operation and Research, spoke briefly on the progress of the Division since January and epitomized critically and hopefully the work of the first year of the Technology Plan.

The chief question to be decided by the Council that evening was that of the participation of the Alumni in the Inauguration of President Nichols, on June 8. Mr. Hart spoke for the Executive Committee of the Corporation, explaining that Dr. Nichols had been promised that he should not be asked to do anything, except be present at the Inauguration, between the present time and July first, and an Alumni Dinner, if one were to be arranged, must be arranged on that understanding and entirely subject to Dr. Nichols' convenience and the spirit of the arrangements already made. It was voted, therefore, to appoint a committee to make arrangements for an Alumni dinner at the time of the Inauguration, provided such a dinner harmonized with the program of the general committee in charge of the inauguration.

In the general discussion on the inauguration which followed, Mr. Macomber, '07, stated his opinion that the inauguration should by all means be held upon the grounds of the Institute, and that it seemed desirable from his point of view that the exercises should be held out of doors excepting in the case of bad weather, when those who came in spite of the weather could be cared for in the Walker Memorial.

President Metcalf next read a letter from Mr. Barker in charge of the Student Intercollegiate Conference which expressed the gratitude of his Committee for help given to this Committee by the Alumni Council.

President Metcalf then introduced the subject of the Intercollegiate Conference by calling on Dean Burton, whose retirement from the Institute had just been announced, and upon his introduction the Council rose in a body with great demonstrations of affection and respect. The Dean spoke to the Council upon the great success of the Student Intercollegiate Conference which had been recently held, and stated that the idea had been conceived by Professor Pearson. He spoke of the value of this conference, educationally, of the development of the American schools, derived as they were from the English colleges, but, he said, alumni spirit had developed only in America. Non-parental government also had been developed only in America, away from the traditions of the English universities. He spoke of the development of financial responsibility on the part of the undergraduates, and that to this end the development of the Alumni Advisory Council was of the greatest help. The Dean further commented on the type of men who had been sent from other colleges to the Intercollegiate Conference and he was confident he said, that they would carry back to their colleges, a far better idea of what Technology is. From his point of view it was

a great bit of publicity. He knew that their representatives had been discussing the Honor System and he was anxious to learn from the students who were present tonight not only about the report of the Conference on this problem, but a general report of the whole Conference. He had purposely kept away from the meetings.

President Metcalf next introduced O. G. Williams, who gave a general account of the Conference. Forty-three colleges were represented by about 135 students; the Institute men had kept from being too prominent in the discussions; instead of having a whole group of Technology men present, Technology had limited its representation at these discussions by its representatives, as other colleges were represented by their individual delegates. The fraternities had extended hospitality to the visiting delegates and were responsible for a great deal of the good report made by the delegates on their return to their colleges. He referred to the editorial in the *Transcript* upon this conference and added that a report of the Conference was to be written, duplicated and sent to the co-operating colleges.

Mr. Carpenter, president of the Senior Class, made the report upon the section devoted to Student Government. Mr. Nixon made the report on the discussion upon Dramatics. Mr. Russell made the report on the discussion on Athletics. Mr. Browning made the report on the section devoting its discussion to Publications.

Mr. Stow of the staff of the Boston *Transcript*, and connected with the publicity of the Institute, spoke of the type of men gathered for that Conference; he was of the opinion that there were no keener, brighter, or brainier students in the United States. He spoke of their seriousness in the discussions, and of their promise; as they are now leaders in the colleges, they are later to become leaders in the country.

Professor Pearson was next called upon. He stated that there had been a discussion as to who was the originator of this scheme, but he believed that the origin of the scheme dated back to the appointment of Professor Burton as Dean nineteen years ago. After a brief discussion of the conference he closed by alluding to the Dean as the wisest of men and the best of friends.

There being no further business, the meeting adjourned 10.35 p.m.

ROGER BABSON'S NEW BOOK

On page 417 in the Book Review department will be found a review of the new book "Religion and Business" by Roger Babson, '98, statistician, business consultant, and, apparently, Christian. The book is well worth reading. Perhaps the review will stimulate you to look it up. That's what it is there for.

THE ANNUAL MEETING OF THE ALUMNI COUNCIL

THE eighty-fifth and annual meeting of the Alumni Council, the last for the present year, was held after dinner in the Walker Memorial, on May 23, with an attendance of fifty. The salad orator was Mr. C. W. Goodale, '75, from Butte, Montana. The meeting was presided over by Vice-President George Gilmore, in the absence of Mr. Metcalf.

The first business of the meeting was to vote by ballot on the names suggested for membership on the nominating committee. Six were voted for, and of these, on another ballot, three were finally declared elected to the Nominating Committee on the basis of the largest number of votes cast. The three finally elected were Messrs. Metcalf, '92, Litchfield, '85, and Hopkins, '97.

For the Standing Committees for the coming year the following nominations had been made, and upon reading, were unanimously accepted and declared elected. They were as follows: Assemblies, Wallace Brackett, '95, until 1926; Historical Collection, Charles F. Read, '74, until 1926; Permanent Funds, Frank A. Merrill, '87, until 1924; THE TECHNOLOGY REVIEW, R. H. Smithwick, '21, until 1926.

It was voted that the new administration take office at the close of the inaugural dinner given by the Alumni Association to President Nichols on the evening of Wednesday, June 8.

Reports of the officers and committees were then the order of the evening, the program, often so long and trying, being managed by the chairman, Mr. Gilmore, with his customary pleasant faculty of getting over a great deal of ground with neatness and despatch.

The reports offered and accepted, many of the most important of which will be found immediately following this article, were as follows: The Auditing Committee; Committee on Permanent Funds; on THE TECHNOLOGY REVIEW; on the Advisory Council on Athletics; on Undergraduate Publications, by Professor Robinson of the English Department; on The Tech Show; on The Musical Clubs; on the Joint Committee; on Student Activities; and the report of the Secretary-Treasurer.

The report which perhaps excited the most interest was that of Mr. Hopkins on THE REVIEW, in which the possible changes and improvements in the magazine were discussed from many angles by Messrs. E. B. Rowe, A. D. Little, Hale, Holcombe, Litchfield, Goodale, Spalding, Sheeline, Gram, and Professor Rogers, editor of THE REVIEW.

In connection with this the chair announced that the Executive Committee had appointed Mr. A. J. Browning, '22, the able and energetic General Manager of the *Tech*, to work during the summer months to build up the circulation of the magazine and to stimulate interest in the Class Notes.

In presenting his report for the Advisory Council on Athletics, Dr. Rowe repeated his plea made before in the REVIEW for greater

alumni support of athletics, where a great work was being done on a totally insufficient budget, and urged that each class contribute at least the fifty dollars asked for to help out this year's deficit. Messrs. Macomber, Henry Morss, Sheeline and Dr. Rowe spoke on the question.

At the close of the reading of the reports Mr. Gilmore called on Dr. Arthur D. Little, '85, president-elect of the Association, who spoke briefly and feelingly in appreciation of the honor done him by the Association and of his hopes to be not unworthy of his predecessors in the office.

Just before the close of the meeting the Secretary called the attention of the Council to the fact that when Dr. Maclaurin had been elected president the New York Technology Club had presented him with a desk and chair, which Mrs. Maclaurin had, of course, taken with her to her new home. It was moved and voted, therefore, that the Alumni Association present to Dr. Nichols a desk and chair for the President's office of the Institute and that a committee of three be appointed by the chairman to act with power. Mr. Gilmore appointed for this duty Leonard Metcalf, '92, A. D. Little, '85, and Walter Humphreys, '97. The presentation was to be made at the inaugural dinner.

THE SEDGWICK MEMORIAL

PROF. S. C. PRESCOTT, the acting head of the Department of Biology and Public Health at the Massachusetts Institute of Technology, has sent a letter to the men who studied under the late Prof. W. T. Sedgwick informing them of the establishment of a William T. Sedgwick Memorial Fund and asking for contributions of from five to one hundred dollars.

The income of the fund will go to Mrs. Sedgwick during her life, after which the principal will go into the funds of the Institute, where it will probably be used to establish a memorial professorship or some other project to encourage public health teaching and general sanitation.

Already some \$40,000 has been raised, some of which will eventually go to the Sharon Sanatorium, a project in which Professor Sedgwick was interested. The donors may specify whether the money shall eventually go there or to the Institute.

ANNUAL REPORT OF THE SECRETARY-TREASURER FOR THE YEAR 1920-1921

Membership: The Membership in the Association on January 1, 1921 was 7989; this has been increased by 350 graduates in the Class of 1920 and 27 additional graduates who received their degree in December and 31 elected members, and reduced by the death of 49 members and 52 who were dropped from membership because of non-payment of dues, making a total of 8296; of these 367 are Life Members. During the year two have been added to the list of honorary members, namely, George Eastman, the generous benefactor of the Institute, who, until the annual meeting of a year ago was known as "Mr. Smith", and Mrs. Edith Cunningham, one of its active and liberal friends, whose husband, before his death, was an Alumni Association Term Member of the Corporation. It was through Mrs. Cunningham's generosity that during the war Camp Cunningham was established upon the Summer Camp site.

Dues: During the year, dues were received from 3575 members, — 43 per cent of the total.

Meetings: There have been six meetings of the Council, with an average attendance of 44. The meeting which would have fallen on the last Monday in January was omitted by vote of the Executive Committee, under general authority given to it by the Council.

Events: Since the last annual meeting another All-Technology Reunion has been held, at which the registration was 732. At this Reunion Dr. Ernest Fox Nichols presented at the Memorial Meeting a paper entitled, "Richard Cockburn Maclaurin as a Colleague". Since that time Dr. Nichols has been elected President of the Institute, and the Alumni Association has been invited to aid in making the arrangements for his inauguration. The usual annual dinner was held in January, at which there was a satisfactorily large attendance. An important event at this dinner was the receipt of the name plate of the Technology Ambulance which was given in memory of Edward Cunningham, '91. During the year the War Record of the Institute has been published in "Technology's War Record". While the editorial part of the Committee's work is completed, there are some details of business remaining which require additional time for consummation. The Council met for one meeting in the new Commons Room of the Architectural Department. During the year a very successful Inter-collegiate Student Conference has been held which has had the support of the Alumni Association.

Appropriations: During the year the Council appropriated \$400 to assist the Committee appointed to raise money among Technology Alumni for the American University Union in Paris. A special appro-

priation of \$750 was made for the support of the Intercollegiate Student Conference.

Faculty Guests: The Council has continued the practice of asking Faculty representatives to speak to the Council from time to time in regard to their interests. Professor Talbot, as Chairman of the Faculty and of the Administrative Committee, addressed the Council on the general problems before the Institute. Professor Timbie gave an interesting talk on the progress being made by the Co-Operative Course in Electrical Engineering with the General Electric Company in Lynn. Professor Haslam described the course in Chemical Engineering Practice to the great interest of the Council. Prof. A. T. Robinson diverted and pleased the Council in his account of the work which he is doing in General Studies, and in particular of his course on the Human Factor in Business and Engineering Publicity. Dr. Walker, just prior to his retirement as Director of the Division of Industrial Co-Operation and Research, spoke to the Council on the Technology Plan and introduced Prof. Charles L. Norton, the newly appointed Director, who was welcomed by the Council. Later in the season Professor Norton spoke again to the Council on the gratifying progress made by this important division of the Institute.

Committees and Reports: The Committee on the War Memorial has made a report during the season and has been continued to report on ways and means of providing a War Memorial. During the year a Committee of three of the Alumni was appointed to co-operate with the Faculty and Student Committee in the discussion of the problem of an Honor System at Technology. This committee has been continued. The Council appointed a Committee of three to canvass the Alumni with reference to contribution towards the American University Union. Pursuant to recommendation of the Business Meeting at the June Reunion a committee was appointed to consider the advisability of the appointment of a Director of Alumni. The Committee has reported progress, but has not yet reached final conclusions. During the year the question of Departmental Committees was renewed and at a meeting of the Council a committee of three was appointed to investigate the subject, but has not yet rendered its final report. The Council has been asked recently to appoint a Committee to co-operate with a Corporation Committee and a Faculty Committee to make arrangement for the inauguration of the new President.

Special Topics of Discussion: During the year an invitation was received by the Council to join delegates of other colleges in the establishment of a Collegiate Employment Bureau, but after discussion the Council thought it best not to accept this invitation. During the season the question of the dates of meetings was raised and it was *Voted* that the Executive Committee, if it seems best, may, by vote, omit the regularly appointed meetings when there is no business to bring before the Council, but that meetings should be held at least once in two months. The Advisory Council on Athletics has addressed the Council on the great need for money for Athletics, and this question was discussed

at one of the meetings. Steps are being taken to interest the classes in contributing funds regularly for the use of Athletics at Technology. Much interest has been shown in the discussion of the topic, "The Limitation of Numbers at the Institute". To these discussions the Council has invited members of the Faculty and of the Corporation to contribute. So interested was the Council that upon the adjournment of the first meeting devoted to this topic it was *Voted* to continue the discussion at the next meeting. At the last meeting of the Council the students made admirable reports upon the very successful Intercollegiate Student Conference called and conducted by them. This movement, initiated by Professor Pearson and fostered by Dean Burton, backed by the Council, promises to be an important and continuing one, of marked service to the 43 colleges participating through representatives of their student bodies.

Financial Report: The financial standing of the Council is reported herewith:

ALUMNI ASSOCIATION, MASSACHUSETTS INSTITUTE OF TECHNOLOGY, DECEMBER 31, 1920

BALANCE SHEET

Assets:		Liabilities:	
Cash	\$8,157.18	Accounts Payable	\$5,248.29
Accounts Receivable	1,919.26	Life Membership	1,200.00
Furniture, etc.	1,269.56	Advance Payments	250.00
Inventory Accounts	846.15	War Records Committee	2,678.79
	\$12,192.15		\$9,377.08
		Surplus	2,815.07
			\$12,192.15
Expense:		Income:	
Secretary's Salary	\$500.00	Sustaining Membership ($\frac{1}{2}$)	\$519.75
Office Salaries	3,300.59	Dues 1920	5,405.00
Postage and Printing	1,103.36	Back Dues ($\frac{1}{2}$)	479.00
Stationery and Supplies	255.17	Interest and Discount	371.02
Carfare, etc., Telephone and Telegraph	40.66	Profit on Office	1,295.71
Collection Expense	7.85	Dinner 1920	92.63
Council Expense	33.24	Reunion 1916	250.64
Travel Expense	42.00		
Miscellaneous Expense	409.56		
University Union in Europe	300.00		
		<i>Review</i>	
		Sustaining Membership ($\frac{1}{2}$)	519.75
		Back Dues ($\frac{1}{2}$)	479.00
		Subscriptions 1920	5,500.00
		Special and Cash Sales	75.15
		Advertising	3,784.89
			\$18,772.54
<i>Review</i>		Expenses	17,260.90
Editor's Salary	500.00		
Advertising Manager	500.00		
Office Labor	693.61		
Paper	3,045.26		
Printing	5,718.85		
Postage	324.39		
Illustration	234.95		
Supplies and Expenses	102.35		
10 per cent depreciation	141.06		
		Surplus January 1, 1920	1,303.43
		Surplus	\$2,815.07
	\$17,260.90		

ANNUAL REPORT OF THE COMMITTEE ON PERMANENT FUNDS FOR THE YEAR 1920

THE Committee on Permanent Funds makes the following annual report: The Trustees hold for the Alumni Association three funds: The William Barton Rogers Scholarship Fund; the Alumni Fund of 1880; and The Life Membership Fund. The Capital accounts of these Funds, as noted by the report examined and approved by the Auditors, under date of December 31, 1920, were as follows:

STATEMENT

Cash	\$3,745.87	
Securities	22,695.00	
Personal Accounts	6,085.00	
Income in Suspense	600.00	
Accounts Receivable (Life Membership)	1,200.00	
		\$34,325.87
Rogers Scholarship Fund (Capital)	\$11,321.12	
Rogers Scholarship Fund (Loan Account)	11,815.57	
Life Membership Fund (Capital)	10,030.30	
Alumni Fund of 1880 (Capital)	1,158.88	
		\$34,325.87

The Life Membership Fund has increased during the last calendar year by \$1200 from life membership fees and \$333.81 income, on investment. The Alumni Fund has gained only by income from investment to the amount of \$44.74. The Rogers Scholarship Fund was increased to the amount of \$1,084.04. Ten per cent of the gross income of this fund is each year credited to the Capital Account by vote of the Trustees.

During the calendar year of 1920, \$1,980 was loaned to 15 individuals. Of this amount \$200 has already been paid back.

During the calendar year, \$1,690 of former loans has been paid.

Since the year 1908 there has been loaned from this fund \$21,940 of which \$13,575 has been paid back leaving a balance of \$7,270 to be collected, but of which \$1,095 has been charged off due to debt or unusual circumstances. Five per cent of this \$22,000 therefore has been considered uncollectible. More than one-half of the balance uncollected has been loaned during the last five years.

Respectfully submitted,

ROBERT H. RICHARDS,
FRANCIS R. HART,
FRANK A. MERRILL.

May 18, 1921.

REPORT OF COMMITTEE ON TECHNOLOGY REVIEW FOR THE YEAR 1920-21

Two meetings of the committee have been held. The financial statement of the TECHNOLOGY REVIEW for 1920 shows a net loss in operating of \$793.59. The total subscriptions, paid and complimentary in exchange, at the end of the year were 4,109. This is a live list, as once a year all subscribers who have not paid for the year are removed. The edition for the four numbers in 1920 averaged 4,600.

Mr. Snow advanced the price for advertising last summer with the expectation that he could assure our advertisers of a circulation of at least 6,000 copies in 1921. If this can be done, he feels confident of an increased list of advertisers and a lower unit cost of production.

Your committee recognizes that the only way to legitimately increase the number of subscribers to the REVIEW is to enlarge the Alumni Association membership. As any drive towards increasing the Alumni Association membership would naturally come under the proposed Alumni Director, it was thought best to concentrate on increasing the sustaining membership. A letter was accordingly sent out by our Secretary which resulted very happily, but your committee would recommend an early effort to increase the regular membership of the Alumni Association.

Your Committee gave considerable thought to the matter of improving the magazine. Professor Rogers very properly states that we should have an alumnus as editor to develop the proper policy and to get after the matter of class news. Here again, the Alumni Director would undoubtedly take some part in this matter; but your committee feels that some alumnus should be selected to devote his entire time to the matter of editorial policy and the gathering of class news.

Your committee also feels that some steps should be taken towards changing the form and the number of editions per year which are issued. Many of our friends have criticized the REVIEW in the past for being too old when issued and for not having a sufficient number of live signed papers. For several years past the tendency has been towards merely reporting the things that had happened.

It is felt that if the REVIEW can be issued more frequently, say at first every two months, and later perhaps every month, that news will be fresher, and that a sufficient number of signed articles can be obtained on important subjects to awaken interest in the members of the association, and lead to a larger reading public.

Suggestions have been made as to changing the size and shape of the REVIEW and its appearance. The criticism at present is that the REVIEW is dignified, formal and uninteresting. It is the hope of your committee that with the co-operation and suggestions of the members

of the Association that the REVIEW can be improved in these respects and yet remain a worthy representative of the Technology spirit.

The program of your committee for the next year is therefore:

First — To improve the present magazine in every way and it thinks that the April number is the best number in recent years. Second — To obtain a man among the recent graduates who can spend his entire time on the magazine. Third — To increase the number of editions per year gradually and as far as practicable. Fourth — To assist in increasing the membership of the Alumni Association and therefore of its own subscription list.

ARTHUR T. HOPKINS, '97, *Chairman,*

WILFRED BANCROFT, '97

MARSHALL B. DALTON, '15

DONALD G. ROBBINS, '07

HAROLD S. WONSON, '07

AN IMPORTANT PAMPHLET IN EDUCATION

PROF. DUGALD C. JACKSON, head of Course VI at the Institute, and Magnus W. Alexander of the General Electric Company have written a pamphlet entitled "The Engineering Industries and Engineering Education," which was presented at the spring meeting of the American Society of Mechanical Engineers, May 23 to 26, in Chicago.

This pamphlet gives the general history and the theory of a practical liaison between engineering schools and industries, whereby students may receive some practical training along with their book-and-laboratory education; it gives also an account of the successful system already working, whereby Technology and the Lynn plant of the General Electric Company co-operate in training engineers.

The pamphlet may be obtained from the American Society of Mechanical Engineers, 29 West 39th Street, New York City, or from the authors.

ANNUAL REPORT OF ADVISORY COUNCIL ON ATHLETICS

YOUR Advisory Council on Athletics takes pleasure in submitting the following report of the athletic activities of the undergraduates for the current academic year. The report of necessity lacks in completeness, as three important activities are still in operation, namely rowing, tennis, and track athletics, whose seasons will not close until early June. But for this deficiency, however, a brief review of the activities for the current year are here given.

The athletic activities of the undergraduate body at the Massachusetts Institute of Technology are operated under conditions which, so far as the writer knows, are particularly unique. In the first place not only is the conduct of the competitive side of athletics in the hands of elected undergraduate operators, but practically the entire financial operation is equally intrusted to the undergraduate representatives. Your Advisory Council exercises the capacity which its name implies, and while consulted by the undergraduates and exerting, naturally, some influence over them, does not dictate policies, although intrusted by you with the power so to do should emergency arise.

This year the undergraduates have instituted a new method of caring for the financial end, which in its operation has reacted greatly to their credit. The Massachusetts Institute of Technology Athletic Association, which is the undergraduate athletic body, elected a treasurer through whose hands passed all funds derived from the student tax — a levy self-imposed by the student body, but collected by the Institute authorities. The Budget Committee, composed of undergraduates, still passes upon the general apportionment of the funds, but the actual handling of these funds is vested in this undergraduate treasurer. Mr. Brokaw, the incumbent for the present year, has shown himself extremely capable and efficient. As the student tax is not adequate to support all of the activities, another undergraduate enterprise, namely the Technology Athletic Club, has been formed by active members of the student body, and this organization has concerned itself both with the development of public interest in the various contests and the financing of certain projects from the standpoint of publicity and audience. In other words, the Massachusetts Institute of Technology Athletic Association concerns itself with the operating end of athletics, while the Technology Athletic Club concerns itself with the supporting and inactive side. The two organizations have worked most harmoniously together and the measure of efficiency obtained is a high one.

An attempt has been made by the undersigned to call the attention of the Alumni to the inadequacy of the funds at the disposal of the undergraduates and to urge upon the Alumni a limited, but definite and permanent, financial support. The response to the repeated appeals

has been extremely disappointing and your subscriber wishes at this time to bring before the Alumni Council the adoption of a definite financial policy on the part of the members composing the Alumni Association, if the Institute athletics are to be carried on at their present level of comprehensiveness and efficiency. With funds amounting to less than \$8000 during the current year nineteen teams have been operated, showing an excellent level of performance throughout and in certain branches of sport records which put the Technology teams in the forefront of athletic enterprise in New England. A single instance of this is shown in your Cross Country team which won the New England Intercollegiate Championship with twelve colleges competing and finished third to Cornell and Princeton in the National Intercollegiate Championship with seventeen colleges represented.

From the standpoint of your Advisory Council far more important than a high level of competitive performance have been, on the one hand, the excellent spirit of clean sportsmanship shown by individuals and teams throughout the season, as evidenced by the unbiased comments of representatives from competing colleges, and, on the other hand, the large number of men who have presented themselves for one or another form of competition and by so doing insured themselves a definite amount of clean, wholesome and wholly desirable exercise. It may be of interest in this connection to enumerate the teams which have operated or are operating this year. The following varsity teams have been constituted and have taken part in definite schedules of intercollegiate competitions: Track, Cross Country, Wrestling, Boxing, Association Football, Rifle, Fencing, Swimming, Hockey, Crew, Tennis, Golf, Gymnasium, Basketball; with Freshman teams in Track, Cross Country, Wrestling, Boxing, Swimming and Baseball. In addition to these there have been the class teams playing Football and Baseball. It is to be regretted that the peculiar conditions which obtain at Technology preclude the inclusion of Football and Baseball as varsity activities. Your Council has, however, canvassed this matter over a period of years with great thoroughness and under present conditions is most strongly of the opinion that these two sports may not be included. As a measure of the popularity of these sports it may be said, to give a few at random, that 140 men entered the Boxing competition, nearly 200 are trying for the Track team, while 176 candidates appeared for Rowing this spring. Several of the minor teams have been extremely successful, and your Council reports for the entire year's activities an extremely prosperous and satisfactory tale of performance.

There are several matters which must present themselves before many years have gone by for the earnest consideration of the Alumni Association. With the steady growth in number of the student body and with the increased demands upon the meagre facilities now available, the time is not far distant when the present inadequate Gymnasium should be replaced by a large, commodious, suitable structure which will house all of the athletic activities of the undergraduate body in a manner commensurate with our needs. If to this Gymnasium could

be added a Swimming Pool, properly housed, a sport which offers wholesome exercise to a large number of men could be properly fostered. Of the institutions in the East ten at the present time require a man to pass an examination in swimming before receiving his degree. Your Advisory Council requires a swimming test of every man who is a candidate for any of the Rowing activities and would be glad to co-operate with the Faculty of the Institute in imposing such a requirement upon every student. A third desirable, though not essential, supplement to the present athletic facilities would be a large shed inclosing a dirt track. This shed could be of the simplest possible construction and should be of such dimensions as to permit of exercise of the various outdoor activities, with the exception of the hammer throw, as Track and Field events, which could be practiced here during the winter, and Baseball in the early spring before weather conditions permit of outdoor performance.

One problem that must be faced immediately is an adequate provision for Rowing. With the Institute situated directly on the Charles River Basin we are in a geographical position of the best advantage for the prosecution of Rowing as a general form of athletic exercise. Your Council is frankly less interested in competitive Rowing than in Rowing as a healthy and amusing exercise and one open to every student in the Institute. The competitive phase necessarily forms an attractive feature and one which reacts definitely upon the number of men who present themselves. For the carrying out of this enterprise housing facilities and equipment are necessary. At the present time your Council is operating Rowing, however, at a cost of less than \$1000, largely through the courtesy of the Boston Athletic Association and the Harvard Athletic Association and the Union Boat Club. Representative crews are taking part in races, the Rowing schedule for this season being approximately twenty competitions. The Boston Athletic Association finds itself in a position where it can no longer support a Boat Club which is used by but few of its members and which represents largely a pure philanthropy on the part of the Association. Your subscriber during the year has endeavored to start a project for the purchase of this Boat Club and to endow it with a sufficient sum of money to carry the overhead cost of operation. With this as a nucleus a student Rowing Club could be formed with a graduate membership and the dues derived from this could be entirely spent for the purchase of new equipment. Under these conditions Rowing at the Institute could be promoted along the entirely healthful and desirable lines which obtain in the older English Universities at the present time. The project has received numerous setbacks, but it is your subscriber's intent to start a definite campaign in the early summer looking to the purchase of the Boston Athletic Association Boat House and its suitable endowment to form a nucleus for the Rowing activities at the Institute. It may be said in passing that Rowing was the one form of athletic enterprise in which our late President, Dr. Maclaurin, had any interest or knowledge. In more than one conversation with your subscriber he expressed himself

as heartily in favor of Rowing and added the wish that it might be promoted so far as was expedient. The burdensome cost of operation in those colleges where competitive rowing constitutes a major varsity activity precludes this from being followed at the Institute, but the use of shells and wherries by one, two, four or eight men is both healthful and beneficial. Your co-operation is earnestly solicited by your Advisory Council to further this project.

It is a practice which has been in vogue for some years for your Council to hold a regular monthly meeting at which time dinner is served and during the meal routine matters of business are considered. After dinner any interested undergraduate is invited to present himself to your Council and present any project, question or grievance which he may have for their consideration. The average attendance at dinner has been eleven, while the average full attendance approximates twenty. An instruction meeting for captains and managers, with an attendance of about fifty, is held at the beginning of the year and a similar meeting for brief informal reports constitutes the regular May meeting of the Council. This year the attendance was forty-four.

To conclude, the undergraduates have this year operated a successful, healthful season of athletic enterprise in which a very large percentage of the undergraduate body has participated in one or another field. The showing in actual performance has been excellent in clean, wholesome sportsmanlike competition of the highest character. This year has demonstrated most clearly that the funds available through the student tax, as at present constituted, are inadequate to maintain athletics at Technology at their present level of performance. Supplementary funds are required to do this, and it is the opinion of your Council that the Alumni of the Institute should guarantee a certain definite sum each year to supplement the money raised by the students themselves by self-imposed taxation. Finally, if the undergraduate activities along these lines are to enjoy the same expansion and growth which other phases of Institute activities have enjoyed and are enjoying, it is incumbent upon the Alumni Association to include in any program of development a very definite increase in the facilities at the present offered to the undergraduate body. These should include a suitable Gymnasium as an essential, provision for a Rowing Club and a Swimming Pool as highly desirable features, and a Field Shed as desirable, though not an essential adjunct.

The undersigned offers apologies for the length of this report, but feels that the importance of Athletics to the student body warrants this somewhat full exposition.

Respectfully submitted,

ADVISORY COUNCIL ON ATHLETICS,
ALLAN WINTER ROWE, *Secretary-Treasurer.*

ANNUAL REPORT OF THE ADVISORY COUNCIL ON UNDERGRADUATE PUBLICATIONS TO THE ALUMNI COUNCIL OF THE M. I. T.

THE work of the Advisory Council during the past year has been systematized and regularly conducted, with meetings at least every month, usually attended by student officers of one or more of the publications.

CHIEF ACTIVITIES

(a) Insistence on regular financial statements and on budgets when possible.

(b) Advice on contracts, circulation, and advertising and sales.

(c) An attempt to establish the custom of regular reports to the Council of board meetings of the publications with notice of changes in personnel and policies.

(d) Criticism of editorial policy only when requested or when the good-will of the school was plainly in question.

(e) An attempt to build up interest in the Trust Funds and to induce retiring boards to contribute their surplus earnings to these funds.

PERSONNEL OF THE COUNCIL

Mr. Andrew D. Fuller resigned from the Council because of inability to give the necessary time for meetings. Mr. Alden Waitt has entered the army and been unable to attend meetings since January. Mr. Lobdell, Mr. Leonard and Professor Robinson have all been available pretty constantly for individual conference and have divided the work about evenly. In this way the Council has accomplished much informally, through good personal relations.

THE TRUST FUNDS

The principle that work on the publications should not result in individual profit is now pretty generally recognized, and is being incorporated in the Constitutions of the incoming boards of all publications. At the same time the Council encourages expense for maintenance, good-will, and improvement of the publications, and attempts to confine itself to an advisory capacity in dealing with the disposition of surplus.

PRESENT TRUST FUNDS

The Tech Trust Fund

The fund includes a furniture account, a permanent investment, and a cash fund. It is likely that the outgoing volume of *The Tech* will add to it about \$800.

Technique Trust Fund

This fund was established from profits of *Technique* 1921, but was almost immediately considerably reduced by payment of large bills left by *Technique* 1920. It includes no furniture account.

PROPOSED TECH ENGINEERING NEWS TRUST FUND

Volume 40 of *The Tech* purposes to devote one thousand dollars of its surplus to the creation of a *Tech Engineering News Trust Fund*. This will include a furniture account, and will make possible the necessary loans and other financial support required by the *Tech Engineering News* as a separate publication.

THE PUBLICATIONS

The Tech

Volume 40 has just closed its accounts, showing a net profit of \$1,822.32. Credit is due to the officers, and especially to Mr. St. Laurent and Mr. Rose, for a business-like and successful year's work, conducted under unusual strain because of frequent changes in personnel and difficulty in selling advertising space. The editorial policy and the general make-up have been on the whole creditable.

The Tech Engineering News.

This publication has up to the present time had its business management combined with that of *The Tech*. A separation is now being effected, on the ground that independence will develop in the *News* more initiative, and that the combined business department made jobs too heavy for the time any single man could spare. The *News* has generally shown a deficit, even though part of the burden of overhead was not charged against it. The auditor's statement for Volume I, however, shows a net profit of \$222.96.

The board of Volume II has taken hold with enthusiasm. They are thus far able to keep up with current bills and have some hope of showing a profit for the year.

The Council feels that there is a place for the *Tech Engineering News*, that it has met with a certain recognition among graduates, and that the contributions have been surprisingly numerous and of unexpectedly high quality. The undergraduate circulation will probably always be small.

One achievement of the year was the formation of a College Engineering Group of student engineering magazines. Advertising space in the whole group is sold through a New York agency to national advertisers.

The Voo Doo

The *Voo Doo* runs continuously, so that no annual statement is available. From the last monthly statement the net worth appears as a little over \$500. There has been no disposition on the part of the editors

to build up a reserve and on the whole little sympathy with the proposal to create a trust fund. They have preferred to put money into the book or to invest in good-will, with the purpose of keeping the surplus to a minimum. The advertising and financial management have tended to lag behind the editorial.

The Council feels that on the whole the *Voo Doo* is a credit to the school. It is perhaps as good as any college comic, though varying greatly from issue to issue and board to board. Most of the material is written by the editors; contributions from the rest of the school are few and bad.

An occasional slip into bad taste of a noticeable sort is the worst fault of the *Voo Doo*. The Council doubts if we may expect much improvement. The blame lies partly on lack of organization and partly on lack of taste itself.

The Technique

Technique 1922 has not yet presented a statement based on an audit of its books. The management of the volume was in every way creditable. Work on the advertising was actively carried on under difficult market conditions and economy and judgment were shown in expenditures. The profit will probably not be much short of \$1800.

Technique 1923 is now placing its first contracts. The Council has as yet no basis for judging the quality of the men in charge.

FUTURE OF THE TRUST FUNDS

The Council has been active in placing before student editors the desirability of contributing the entire year's surplus to the Trust Funds with the prospect of building up a reserve which might eventually be used for a Publications Building. The idea is hard to sell because the prospect is too remote. Editors feel that to place profits in the funds is to bury them. There is consequently a disposition, more or less marked, to devote profits to athletics, to pass them on to the next volume directly, or to absorb them in general expenses during the year. Unless sentiment changes, it is doubtful whether the funds will increase much beyond their present size.

Respectfully submitted,

ALUMNI ADVISORY COUNCIL ON UNDERGRADUATE PUBLICATIONS,
By A. T. ROBINSON, *Chairman*.

ANNUAL REPORT OF ADVISORY COUNCIL ON TECH SHOW

THE Advisory Council on the Tech Show, begs to submit the following report for 1921:

As will be seen by the detailed account submitted by Stuart Nixon, the General Manager of the Show, which account is a part of this report:

Total receipts amounted to	\$18,572.06
Total expenses amounted to	15,741.51
<hr/>	
Leaving net profit of	\$2,830.55

We consider this an excellent showing, especially as the change in dates for Junior Week necessitated making entirely new arrangements and brought about many new problems, and we congratulate the management on the efficient methods pursued all along the line.

We believe that some definite policy for the future should be outlined by the management, with the assistance of the Advisory Council, which will tend towards an accumulation of funds for some constructive purpose. We believe this will further the interest and responsibility in this activity and give each show management something to work for.

The detailed report is appended.

Respectfully submitted,

ALEXANDER MACOMBER, '07
GEORGE B. GLIDDEN, '93.

REPORT OF THE ADVISORY COMMITTEE ON MUSICAL CLUBS TO THE ALUMNI COUNCIL, MAY 3, 1921

THE season of the Massachusetts Institute of Technology combined Musical Clubs for 1920-1921, will be discussed under the following headings:

1. *General Policy.*

The general policy of the clubs during this season has not differed markedly from that of past years. They have endeavored to combine a good musical performance with the proper amount of entertainment for the men who participate in the clubs; and above all, they have endeavored to increase the prestige of Technology in a social way. Apparently, musical clubs of the present day lean either toward serious high-class music or toward a kind of combination jazz-vaudeville performance. Because of lack of time and finances, the Institute Clubs have felt it inadvisable to devote their program entirely to serious music. On the other hand, they have also felt it inadvisable to follow the second course. As a result, they have taken a middle path by giving a few high-class numbers and devoting the remainder of the program to a performance in a lighter vein.

2. *Personnel.*

The membership of the clubs totals about fifty-five men, although many more than this number tried out for various positions in the early part of the season. The personnel of the club was divided as follows: Glee Club, twenty men; Mandolin Club, twenty; Banjo Club, twenty; Specialties, five; Management, ten.

An innovation has been introduced this year in the formation of a new society having as members the wearers of the Musical Clubs' charms. This charm was adopted in 1914-1915, and is given to members for at least two years' faithful service. Hereafter, however, the honorary members will be chosen by the present members and will include those who have done most to benefit the clubs.

3. *Concerts.*

A total of about twenty concerts was given, most of which were in the vicinity of Boston. During the Christmas holidays, however, a trip was made to include Brooklyn, Cranford, N. J., Philadelphia, Washington, New Brunswick, N. J., and Montclair, N. J. That these concerts were successful from a financial standpoint, is evidenced by the fact that not only the Musical Clubs, but also the local managements more than cleared expenses. The members of the clubs enjoyed the

trip thoroughly and reports from the local managements are to the effect that they were completely satisfied.

Two concerts for the benefit of Institute men were given as usual — the winter concert, which was held at the Copley Plaza Hotel, and the spring concert which, for the first time, was held in the Walker Memorial Building. This latter affair proved so completely successful that it is likely all concerts of this nature will be held there in the future.

4. *General Impression Created by the Clubs.*

Criticisms from all sources indicate that the work of the clubs was unusually good and was enjoyed in the different cities which they visited; indeed, most of these cities wished for return engagements. It is apparent that the men conducted themselves everywhere in such a way as to leave an excellent impression. Certainly, the clubs have been an important factor in creating social prestige for the Institute.

5. *Financial Status.*

Beginning the season with about \$300 in the treasury, the clubs have come to a successful conclusion with almost \$500 to their credit. In addition to this, they have made a number of improvements in the office and have bought several articles of furniture. A more detailed account of the finances will be found in the treasurer's annual report.

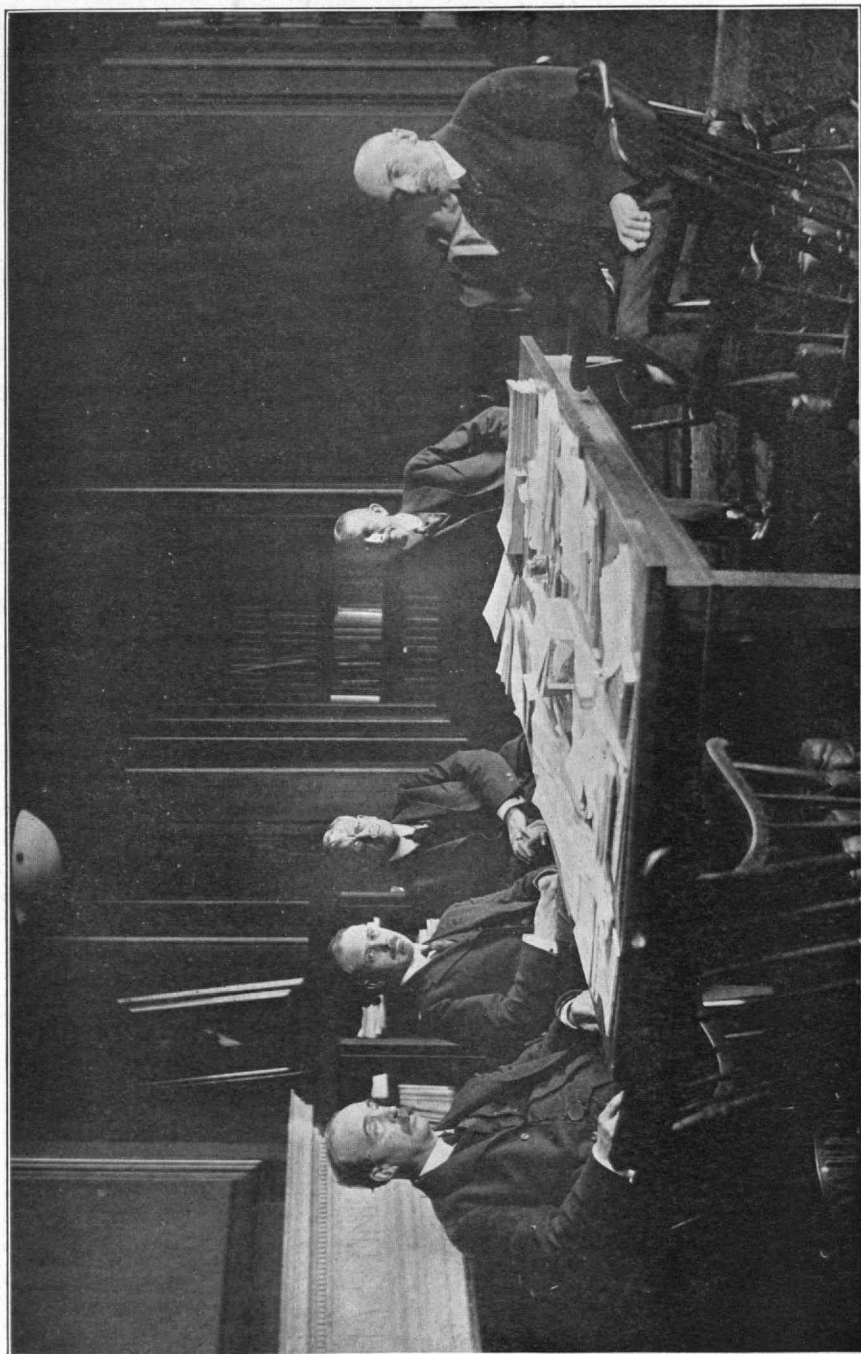
6. *Recommendations.*

Evidence of the past few seasons shows that it is highly desirable for all members of the Musical Clubs' Advisory Committee to live in the immediate vicinity of Boston. It is, therefore, recommended to the Alumni Council that if, in the future, any member of this committee should leave Boston, some other local Alumnus be appointed in his stead.

In view of the fact that the clubs have not had any direct representation on the Alumni Council, it is suggested that a member of the Advisory Committee be allowed to sit with the Council, provided there is no objection.

In the future, it is suggested that members of the Advisory Committee be thoroughly familiar with the Musical Clubs' constitution. There are certain duties which have been overlooked to some extent in the past and which might occasion considerable difficulty if they are not lived up to.

ADVISORY COUNCIL ON MUSICAL CLUBS,
ALLEN ABRAMS, '15, *Chairman.*



THE ADMINISTRATIVE COMMITTEE

Left to right: Prof. E. F. Miller, Prof. E. B. Wilson, Prof. Charles L. Norton (in conference with the Committee), Everett Morss, and Henry P. Talbot.

THE WORK OF THE ADMINISTRATIVE COMMITTEE

THE work of the Administrative Committee will terminate as soon as President Nichols is able to take over the full executive responsibilities of his office. As this will occur at some time during the summer, a brief review of the happenings at the Massachusetts Institute of Technology under this interim internal government is appropriate.

As a general rule it may be said that the Committee was expected to deal only with internal affairs and that probably these affairs have had a more careful study than has been possible for many years under presidents with the external as well as internal business to care for. Moreover, the recent presidents of the Institute have had short terms in service and could not be expected to be so familiar with internal affairs, even toward the end of their terms, as the members of the Administrative Committee have become through long service in the work of the Institute.

The major accomplishments from January to October, 1920, were summarized in the President's Report and are as follows:

The payment of bonuses for the year 1919-20.

The establishment of new salaries all along the line for 1920-21.

The combination of the Department of Mining Engineering and Metallurgy with the Department of Geology and Geological Engineering into a Department of Mining, Metallurgy and Geology in charge of Professor Lindgren.

The re-classification of the Department of Drawing and Descriptive Geometry as a Division of the Department of Architecture with Prof. W. H. Lawrence of that Department in charge of the Division.

The separation from the Department of Chemistry and Chemical Engineering of the work in Chemical Engineering, of the Research Laboratory of Applied Chemistry and of the School of Chemical Engineering Practice and their constitution as a Department of Chemical Engineering under the leadership of Prof. W. K. Lewis.

The expansion of the Medical Service, with Dr. G. W. Morse in charge, including the requirement that all men entering the Institute shall submit themselves to a general medical examination, and with a provision of better safeguarding those who enter athletics and those who may suffer accident or illness during their stay at the Institute.

The change by which the Dean instead of being annually elected by the Faculty is to be appointed by the President as one of the officers of administration.

The transfer of the office of the Registrar from nominal dependence on the Secretary of the Faculty to immediate responsibility to the President, and the transfer from the office of the Secretary of the Faculty to that of the Registrar of all the general correspondence of the Institute.

Naturally, the period from October, 1920, to July, 1921, has not so many major changes to record, but the activity has been no less.

It was found necessary to construct a small building for the storage of chemicals outside the main building.

In the Department of Physics a Research Laboratory of Industrial Physics has been established with Professor Norton as Director.

The appointment of Professor Norton to succeed Dr. Walker, resigned, as Director of the Division of Industrial Co-operation and Research.

The appointment of Professor Park as Director of the Summer Session, responsible to the President, and the adoption of other plans to increase the usefulness and prestige of the Summer Session which has rapidly increased in number of courses offered and in attendance.

The establishment, at the suggestion, and with the financial aid of the fisheries industry, of an Option in Course VII, especially designed to train students for that industry.

The re-organization of the dining service in Walker Memorial under the direction of Mr. W. E. Smith of the Georgian Cafeteria.

The establishment of a Journal for Mathematics and Physics as an encouragement to research in affording better facilities for publication of scientific investigation in those lines at the Institute.

The appointment of Dr. H. P. Talbot to serve as Acting Dean of Students next year in place of Dean Burton who will be on leave of absence.

The establishment of an Ordnance School under the general direction of Professor Miller by arrangement with the United States Army to transfer instructional work from Aberdeen Proving Grounds to the Institute.

The development of Reserve Officers Training Corps units to a point where they are now among the best in the country.

Authorization to proceed to construct during the summer a new wind tunnel expected to be the largest in America.

Additions to the Faculty, which previously has consisted only of persons of professorial grade, of selected senior instructors.

Re-organization of the manner of purchasing books by transfer to the Librarian from the various departments of the funds and authority for such purchases.

During nearly the whole of the eighteen months of its life, the Administrative Committee has been steadily engaged upon an analysis of the costs of instruction in different departments and of the distribution of these costs between lower class and upper class work, and between laboratory and recitation or lecture work. Figures soon showed what was fairly obvious to close students of education, namely, that by and large laboratory instruction is far more expensive than other kinds. The Institute has always had an exceptionally large amount of laboratory work as compared with most academic institutions. This was one reason for the unusually large tuition (\$250) as compared with others (\$150) charged by Technology before the war. The increase of tuition

here to \$300 has been accompanied by relatively far larger increases elsewhere, so that today the Institute, despite its large amount of laboratory work and its comparative freedom from instruction by large lectures in place of recitations, finds its tuition charge nothing like sixty-seven per cent higher than in other institutions of the first rank. The Administrative Committee, therefore, after a very careful consideration of the matter decided to recommend the adoption of special laboratory fees for laboratory courses to cover part of the extra cost of laboratory instruction. Of the additional tuition thus received \$10,000 will be set aside next year for the use of the Committee on Undergraduate Scholarships for the relief of really needy students of high standing.

It is interesting to note that of the total expenses of the Institute about one-half go to cover salaries of teachers and departmental expenses accessory to instruction and about one-half go to heat, light, power, upkeep of the plant and general administrative expenses. The total annual cost to the Institute is between \$500 and \$600 per student on the basis of present numbers without taking at all into account the interest upon the investment in the plant which in a commercial enterprise would have to be counted among the manufacturing costs and which would bring the total cost of instruction to around \$750 per student per annum. In the opinion of the Administrative Committee it is only the general efficiency of the Institute and the willingness of students and staff alike to work hard for the common good that enables Technology to give the kind of instruction it does, on its somewhat meager endowment funds, for the low tuition of \$300 plus laboratory charges. Few realize how disproportionately greater is the cost of failures, deficiencies and other irregularities on the part of students. Part of the extra cost of failures and deficiencies has been covered by a charge of five dollars for each, and it may sometime become advisable to make a special charge for each irregular student. The Committee has put into force a charge of twenty-five cents per hour (including exercise and preparation) for all work taken in excess of the regular amount by students with past failures or deficiencies to make up.

During the administration of the Committee the following promotions have been made:

To the grade of Professor: H. K. Barrows, C. W. Berry, H. W. Gardner, H. W. Hayward, F. G. Keyes, C. L. E. Moore, J. C. Riley and G. E. Russell.

To the grade of Associate Professor: R. T. Haslam, C. R. Hayward, D. A. MacInnes, Edward Mueller, J. W. Phelan, H. B. Phillips, T. H. Taft and R. E. Wilson.

To the grade of Assistant Professor: H. L. Bowman, I. H. Cowdrey, T. L. Davis, F. S. Dellenbaugh, J. J. Eames, F. R. Kneeland, C. W. Ricker, L. W. Parsons, C. S. Venable and W. G. Whitman.

The following have been added to the professorial staff: Albert Ferran, Professor of Design; J. R. Jack, in charge of Department of Naval Architecture and Marine Engineering; Dr. G. W. Morse, Medical

Director; H. Monmouth Smith, Professor of Inorganic Chemistry; M. D. Hersey, Associate Professor of Properties of Matter; E. P. Warner, Associate Professor of Aeronautical Engineering; L. J. Gillespie, Assistant Professor of Physico-Chemical Research; W. F. Jones, Assistant Professor of Structural Geology; H. H. W. Keith, Assistant Professor of Naval Architecture; Walter C. Schumb, Assistant Professor of Inorganic Chemistry; D. S. Tucker, Assistant Professor of Economics; D. W. Wilson, Assistant Professor of Chemical Engineering and P. G. Woodward, Assistant Professor of Chemical Engineering.

The conservative attitude of the Committee with respect to promotions was in line with the general policy of Dr. MacLaurin.

The Administrative Committee has been aided in its work by the co-operation of members of the Instructing Staff and by the Executive Committee of the Corporation.

THE ADMINISTRATIVE COMMITTEE

[See illustration opposite page 369]

DURING the interregnum while the Institute was without a president the functions of that office were carried on by three members of the Executive Committee of the Corporation and three members of the Faculty, all having equal responsibility. Prof. Elihu Thomson, Ph.D., Sc.D., of the General Electric Company, acting president of the Institute, was willing to take the position only on condition that he be relieved of all actual responsibility. The three members from the Corporation were Everett Morss, '85, president of the Simplex Wire and Cable Co., director of the First National Bank and director in many other concerns (Mr. Morss was present when the photograph was taken); Francis R. Hart, '89, vice-chairman of the Old Colony Trust Company and treasurer of the Institute, and Edwin S. Webster, '86, of the firm of Stone & Webster. The three members from the Faculty were Edward F. Miller, '86, head of the Department of Mechanical Engineering, member of the American Society of Mechanical Engineers, member of the American Society of Civil Engineers; Edwin B. Wilson, Ph.D., formerly professor of mathematics and now head of the Department of Physics, member of the National Academy of Sciences, and Henry P. Talbot, Ph.D., chairman of the Faculty, head of the Department of Chemistry and a member of the Executive Committee of the American Chemical Society. Prof. Charles L. Norton, '93, who was in conference with the committee at the time the photograph was taken, is professor of industrial physics, and has recently been made head of the Division of Industrial Co-operation and Research.

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Compiled by PROF. R. P. BIGELOW,
Librarian of the Institute.

AN INTERVIEW WITH DR. NICHOLS

The Boston Post secures an interesting talk on many things of interest from our new executive.

"I AM turning over in my mind a number of ideas that have to do with the policies and administration of the institution," said Dr. Ernest F. Nichols, when questioned regarding his plans as president of the Massachusetts Institute of Technology.

Dr. Nichols is director of pure science research at Nela Park, the great research experimental station of the National Lamp Works, and here he was found by the interviewer.

"I will arrive in Boston to begin my new duties about July 1," he said. "Of course, I am turning over in my mind a number of ideas that have to do with the policies and administration of the institution, but it would be a little premature to make any announcement before I have looked the ground over."

Dr. Nichols said he foresaw a great future for the institution. He declared the demand for scientifically trained men and women is greater today than ever before.

"The demand far outruns the supply," he said. "The war has been a big factor in changing the attitude of industry to scientific research. I think the time is coming when every great industry in the country will have its own laboratories manned by equipped scientists."

Business has learned the far-sightedness of research, even in the realm of pure science, and research that may not bear fruit for two or three years has a value that is becoming recognized."

Dr. Nichols believes there is a definite place in the scientific field for the trained woman scientist, although he expressed the hope that too many women would not see fit to invade fields hitherto the provinces of men.

"It would be rather disastrous if men in large numbers should suddenly invade the fields of nursing, housekeeping and others now dominated by women," he said. "We look to women for a certain set of mental qualities and for a certain outlook different from those of men."

Although he does not recognize any particular profession as definitely closed to women, Dr. Nichols said he believed women found better success in the arts than in the sciences.

The old controversy between science and religion has vanished into thin air, Dr. Nichols said.

"Science and religion are not at all antagonistic, and they never were," he said. "The only reason they ever were thought to be mutually exclusive was because some persons attached to religion certain ideas and impressions that did not belong to it. They weren't the foundation of religion at all but the gables and jimcracks around the roof."

If you could take a census of scientific men today you would find, I think, that as many of them are truly religious as bankers or business men, lawyers and doctors. Of course, I am not referring to religion in any narrow sense of dogmas and rituals, but in the broader sense of man's conception of the universe in which he lives and of his relations to it."

America's scientific contribution to the winning of the war was quite as important as that of France or England, he said, if we make allowance for the shorter time America was in the conflict. He expressed the opinion that there are many scientific ideas in the archives of the War Department which had reached perfection just at the close of the war and which were not known to the country as a whole.

"All scientific research requires time," he said. "You must look to a long period of two or three years in which to achieve results."

"It's fine to say that what we want is applied science," he said, "but you can't apply a thing until after you have discovered it."

One of the things I expect to do at the Institute is to keep this proper balance between pure science and applied science.

Pure science unearths a new fact. Then applied science puts it to use. About a dozen people today understand the Einstein theory of relativity, but it's not outside the realm of possibility that some day all of us will be using devices growing out of it."

Dr. Nichols smokes cigarettes, and an open box of them stands there in his study beside a silver ash tray. He talks in a quiet voice, but has the habit of taking out his pencil every little while to make diagrams to illustrate some particular point.

"Success in the scientific world," he said, "must be bought at the price of continuous study and research. Thoroughness is the keystone of the arch. Every minute detail must be sought out."

Dr. Nichols walked over to a window and looked out across Nela Park. The park is situated on a high hill overlooking Cleveland, and it commands a view of Lake Erie. The park, an area of expansive lawns dotted with imposing buildings, has the air of a college campus, and when he arrives at Technology he will find the atmosphere somewhat familiar.

The doctor put on his horn-rimmed nose glasses, which had hung pendant on a narrow black ribbon about his neck, and regarded three or four boys playing ball on the lawn.

"I never was much of a ball player," he said. "I like all sorts of outdoor sports, but never developed much proficiency at them."

But he is genial and has an engaging smile, which suggests he could probably yell as loudly as the merest freshman at a football game.

He disclaims any pronounced hobbies. But he likes dogs and cats and horses and loves to get out on Sunday afternoon and tramp around in the woods. Another favorite diversion is motoring.

How he sees the world through the eyes of an educator is best illustrated by passages in his inaugural address at Dartmouth, in which he said:

"The strong teacher must ever have the best of the priest about him, in the fervor of his faith, in the healing power of truth.

Let our teaching be sane, fearless and enthusiastic, and let us not even in moments of despondency, forget the dignity, the opportunity, the power of our calling.

The teacher is the foremost servant of society and the State, for he is moulding their future leaders.

Sound learning, wisdom and morality are the foundation of all order and progress and these are the aim to foster.

If we can send into the world a yet larger number of strong young men — men clean in body, clean in mind, and large of soul, men as capable of moral as of mental leadership, men with large thoughts beyond selfishness, ideas of leisure beyond idleness, men quick to see the difference between humor and coarseness in a jest, we need never fear the question — 'Can a young man afford the four best years of his life to go to college?'

The two men in Boston who were perhaps the most closely connected with Dr. Nichols while he was at Dartmouth are the Hon. Samuel L. Powers and Senator Lewis Parkhurst. Both of these men were trustees of the college while Dr. Nichols was its head, and both had an opportunity to gain intimate association with him. He frequently visited their homes with his family.

Mr. Powers in sketching the career of Dr. Nichols at Dartmouth said of him: "It was in 1898 that Dr. Nichols was called to the professorship of physics in Dartmouth College. He reorganized this department and made it one of the strongest and most efficient in the college.

During his stay, at this time, he invented a machine which determined the heat of fixed stars, which was a remarkable thing in the scientific world. Added to this he was also able, in experimenting in the new Wilder laboratory at the college, to measure the pressure of a beam of light.

In 1903 he left Dartmouth and went to Columbia to the physics department there.

Eventually he went to England and lectured before the Royal Institution in London and the Cavendish Laboratory of Cambridge University.

While at Cambridge he met Dr. Maclaurin and the friendship of these two men continued down to the time of Dr. Maclaurin's death. He frequently visited the head of Technology in Boston as these educators were both interested in the same features of science.

In the early part of 1909 President Tucker of Dartmouth began to decline in health and he called the trustees together and informed them that he would have to relinquish his duties as the head of the college.

The trustees realized the difficulty of getting a man to fill the position. Dr. Tucker had endeared himself to every student, and had built up a great college during his administration.

It was finally decided to call Dr. Nichols. Of course he had been a

professor at the college, yet he was not a graduate. To step into Dr. Tucker's place took courage on his part, but he undertook his duties with confidence that the institution was going to move ahead.

His system was revolutionary. He exacted a very high standard of scholarship and the professors had to show greater ability at teaching as well.

There were those that thought he was unreasonable in this demand, but there is no question that he promoted greatly the studious habits of both the students and professors.

A man of remarkable industry himself, he was a strict disciplinarian. When his attention was in any way called to a backward student his question was invariably, "Is he worth saving?" He did not believe in wasting time on a boy if that boy did not prove himself worthy.

How well he managed Dartmouth can be realized when it is common history there that for the first two years of his stewardship he never took a vacation, but studied every department of the college, so that in the end he knew it thoroughly.

He never had any hobbies or indulged in any sport.

His wife was a New York State woman and a graduate of Wells College. She is a charming hostess and a brilliant woman. She proved to be an entertainer without a peer for the great numbers of guests that visited their Hanover home. She had perfect tact at all times and was immensely popular with the students.

The Institute of Technology is indeed fortunate in the coming of Dr. Nichols as its head. He is well equipped to grapple with its problems, and he will delve into every detail of the institution to familiarize himself with its working.

He will measure up to President Lowell of Harvard in scholarship although in a different way. He is the equal of the late President Maclaurin in all respects. He will have a splendid opportunity to delve into scientific subjects at Technology, and has found the place where he will be of the greatest value in his profession."

Senator Parkhurst is a life trustee of Dartmouth College, serving under Dr. Tucker and Dr. Nichols, and now aiding President Hopkins. At one time Senator Parkhurst was offered the presidency of Dartmouth himself.

"Dr. Nichols did two things for Dartmouth College, which leads me to believe that he will exact of every institution wherever he goes," said Senator Parkhurst.

At Dartmouth he raised the academic standard and strengthened the faculty by bringing able men to the college.

He also thoroughly reorganized and established the business procedure of the college.

In this latter respect he divided the trustees into two groups. One was called the Committee on Education and the other the Committee on Business Administration. He was the chairman of the business group.

The influence of Dartmouth as an institution grew very rapidly

under his administration. Dr. Tucker had built a great institution with amazing rapidity and Dr. Nichols solidified the structure.

The resources increased fifty per cent under his administration, rising from \$4,000,000 to \$6,000,000.

When he left Dartmouth he moved about in one or two places, working on scientific matter, but he did not really find a place that suited him until he landed at New London during the war. Here he was assigned to the Bureau of Ordnance of the navy and was at the head of a body of skilled investigators and scientists.

He had an unlimited amount of resources and he frequently wrote me of his progress, although he could never divulge what his exact work was. He experimented in submarines, and finally scored a triumph for the navy in the perfecting of a device that was badly needed.

THE WAR RECORD BOOK

THE Alumni Office has received many letters from alumni in regard to the War Record Book, most of them commending the work of the editor in high terms. It is inevitable that in an undertaking of this magnitude some errors and omissions should occur and it seems to the committee desirable that so far as these are important the appropriate publication should be made in the *TECHNOLOGY REVIEW*. Readers who have noted errors or omissions not already reported are therefore invited to send them in for publication at an early date. — H. W. TYLER, *Chairman, Committee on War Record*.

PRESIDENT NICHOLS MEETS THE SENIORS

THE four hundred members of the Class of 1921 who attended the Senior Dinner on Tuesday evening, June 8, on the eve of the inauguration, were the first Technology men to have an opportunity to see and hear the new president, and, conversely, they furnished his introduction to Technology life. The Walker Memorial was crowded with a noisy, happy group, happy although they knew that the notices of their success or failure in securing degrees were even then being mailed, and they gave rousing welcomes to their guests.

R. H. Smithwick presided, of course, and the speakers were Dr. Nichols, Dean Burton, Professor Talbot, A. D. Little, and Professor Rogers of the English department. Others at the head table were R. A. St. Laurent, R. R. Sutherland, L. W. Conant, A. D. Harvey, and H. P. Junod. Watts Humphrey led the cheers and songs.

The speakers were fortunate in being able to test out the Bell amplifier, placed in front of the speakers' tables for the ceremony of the morrow, and the device added greatly to the pleasure and convenience of both speakers and auditors.

Arthur D. Little, '85, president-elect of the Alumni Association was the first speaker. He reviewed the work of prominent Technology alumni, among them the du Ponts, the late Dr. Sedgwick, Dr. Whitney of the General Electric Company at Schenectady, Lufkin of the Texas Oil Company, and Hayes of photophone fame. He said he believed that one of the reasons why Mr. Eastman changed his name for so long a time to "Mr. Smith" and gave Technology many millions was the splendid work forty Technology alumni were doing for him in his plant at Rochester and he urged the graduating class to attempt to duplicate this feat of the forty at Rochester.

He reminded the members of the Class of 1921 that henceforth they were to be among the conservators of Technology's reputation and that much of the present prosperity of Technology was due to the manner in which the former men of Technology had upheld Technology's reputation everywhere. He pointed to some of the great achievements of Technology men in the world and regretted that the times were such at present that opportunities were not very plentiful. The great problem now is making a living, but any problem rightly considered is an opportunity. "There is work in the world for every one of you," said Mr. Little.

Prof. Robert E. Rogers of the English department made considerable fun out of the amplifier which was in use for the first time to magnify the speakers' voices. He read a poem, fashioned after Kipling's "If", dedicated to Dean Burton, concerning the latter's work at Technology and into which he injected much local humor. He said, "I suppose I ought to tell you how to go out and make a thun-

dering success of life. If I ever find out just how that is done I will communicate with you."

Dr. Nichols, who was next introduced, was given a splendid reception, loud and long applause and a Technology cheer. He obviously made a genuinely favorable impression on the seniors.

In opening his address he recalled the life of the man he succeeds at Technology, the late Dr. Richard C. Maclaurin, of whom he was a colleague on the Columbia University faculty. Dr. Maclaurin, he said, was a "man of penetrating intelligence and sympathetic judgment, a man the like of whom few are given to any generation." He then asked that the four hundred students present stand a moment in silent tribute to Dr. Maclaurin.

"I should like to be called the 'step-president' of Technology," said Dr. Nichols. "I do not want to come between you and your late president and so I should like to be called that and for the moment I should like to become a step-father and do what they do so well — give a little advice.

"I first want to congratulate you men upon your graduation. There are not so many other such definite milestones in a man's life. From your graduation you may take added confidence in going out into life. Jobs are at present very scarce and every man going out must make the place he is to fill. For this reason his success will be the more to his credit.

"There is no man who completes his education until he is buried. Furthermore every man may be said to be self-educated. The measure of a job is how much you put into it and second, how much you get out of it. To do more than you are paid for and do it with cheerful enthusiasm is one of the best rules for success. You must practice your profession in association with men and it is often the judgment of those men upon your work that decides the award of life's prizes.

I believe that human relations in industry are just as important as scientific methods of manufacturing. In going out into the world, remember that your success is the success of the Institute."

Dean Burton, on this, his last appearance before the men he had befriended for four years, his last senior class at Technology, was made to feel something of his popularity by the ovation he received.

Dean Burton started out by saying that his would be the last speech he would make at the Institute and probably the most embarrassing one for him while here. He praised the architects for showing the outside world that there was something else in an undergraduate of the Institute besides ability to absorb all kinds of technical knowledge.

Further he went on to compliment the graduating class on its accomplishments while at the Institute. They have restored the old traditions of Technology which suffered in the discard during the period of the last war. If it had not been for their efforts the momentous success of the Intercollegiate Conference on Undergraduate Government would never have been accomplished.

He warned that there would be some seniors who would be condi-

tioned before graduation, but his advice to them was to be loyal to the Institute and they would benefit thereby in the long run. To illustrate this point he told a story of a man who was a senior in 1876 but who did not hand in his thesis, therefore he did not graduate. In 1895 he wrote to the Faculty and asked how he might obtain his degree. He received a reply that this might be done, if he should hand in the thesis. He did this only this year and is to receive his degree, thirty-five years after being a senior!

He reiterated the fact that the fame of the Institute depended upon the actions of the alumni. His advice relative to jobs was as follows. Do not wait for a job for which you think you are fitted. Take whatever is offered. Do not be tied down too soon after leaving the Institute, for the world today is not so small that a man cannot obtain a job in the uttermost parts of the earth to his advantage. You will find your natural bent, it may be different from what you think it is now, and above all, do not take a job with your father — at least, not at first.

In closing, he said that he felt easy on the eve of his departure, for he was leaving the Institute in good shape for coming storms. The Class of 1921 had infused good traditions in the undergraduate body. In the new dean, his successor, was a man in whom a student might find sympathy and level-headedness, and who was able to cope with the problems arising in that office. But, above all, he felt that Dr. Nichols was the man essentially suited for the presidency.

Too much credit cannot be given the members of the committee and the toastmaster. The dinner committee was composed of K. R. Sutherland, L. A. Lloyd and S. J. Marine. Smithwick made very good introductions for the speakers.

Following the banquet was a class meeting. R. A. St. Laurent was elected permanent secretary-treasurer of the class, and R. H. Smithwick was chosen representative of the class for the Alumni Council.

THE VAIL BEQUEST TO M. I. T.

UNDER the will of Theodore N. Vail, late member of the Corporation, Vail House, in Morristown, N. J., the Presbyterian Church of Parsippany, N. J., Dartmouth College and Princeton University receive \$100,000 each; Harvard University, Massachusetts Institute of Technology, Middlebury College, Vermont College and Phillips Exeter Academy receive \$50,000 each.

1921 IS GRADUATED

The largest class in the Institute's history — Dr. Thomson
presides — 1876 represented

THE MASSACHUSETTS INSTITUTE OF TECHNOLOGY awarded 637 degrees to the largest class in its history at the annual commencement exercises, held on Friday afternoon, June 10. Acting President Elihu Thomson awarded the degrees and the candidates were presented by Prof. Henry P. Talbot, chairman of the Faculty.

The candidates for degrees filed into the hall in Walker Memorial at the opening of the exercises and took seats in the front of the auditorium. Parents and friends of the graduates crammed every other available bit of space on the main floor and the balconies. With Dr. Thomson on the platform were seated members of the Technology Faculty.

Among the degrees awarded was one "as of 1876" to Everett Emerson Hapgood, who completed his course with his class with the exception of his thesis, which prevented his receiving his degree. He has lately handed in his thesis, "A Design for an Artist's House," and so is entitled to his B.S. degree. Seven men received the degree Ph.D., ninety-six became masters of science and 534 bachelors of science. The Institute confers no honorary degrees.

In the list of graduates was one co-ed Miss Nellie Jefferson, who received the degree M. S. for post-graduate work in the department of architecture.

The exercises, according to tradition, were simple and consisted in the reading of abstracts of their theses by six seniors, as follows:

Capt. Henry Hutchings, Jr., engineer corps, civil engineering, "A Report upon the Construction and Maintenance of Military Roads and Bridges in Forward Areas."

Marshall Hayden Winchester of Manchester, mechanical engineering, "Efficiency Test of a Hydraulic Turbine and an Investigation of Hydraulic Draft Tubes."

Edward W. Noyes of Newburyport, mining engineering, "Iron Mining on the Mesabi Range, including Concentration of Eastern Mesabi Low-Grade Magnetite."

Munroe C. Hawes of Newark, N. J., chemical engineering, "Drying of Vulcanized Fibre-Board."

James B. Ford of New York City, naval architecture, "The Design of an Aerodynamic Balance with Six Degrees of Freedom."

Robert B. P. Crawford of Kansas City, electrochemical engineering, "The Electrolytic Deposition of Monel Metal."

Dr. Thomson, in an informal address to the graduating class, advised them of the poor business conditions at present, which made job-seeking no easy task, and told them to accept a job immediately

if one was offered, even if it was not exactly after the line of study they had been following at Technology. "When I started out I found no opening in the electrical field," said the chief engineer of the General Electric Company, "but I started as a chemist and did analyzing and teaching until my opportunity came to go into electrical engineering. When it came I took it and have found much interest in the work ever since."

Speaking of the value of the technical man to society he said: "I believe that the expert will come to be of more and more importance as civilization progresses. If a person was sick he wouldn't take a popular vote on what kind of medicine to use, but would go at once to an expert doctor, and so it must be in other things. The expert must supplant the popular vote, and experts must be known by their careers."

As we had conscription of military material in the world war, so I believe we must have conscription of labor material if we ever have another war. While some men entered military service and got practically no pay, others at home became minor profiteers in selling their services."

Dr. Thomson added that he feared the moving pictures were taking up too much of the people's time and, though he sponsored them as a relaxation, he thought they might be indulged in too much.

Following the graduation exercises, which were, according to Technology tradition, simple and without music or prayer, Dr. Thomson, Professor and Mrs. Henry P. Talbot and Mr. and Mrs. A. D. Little received the graduates and their friends in the Faculty room.

The graduating exercises were in charge of a Faculty Committee consisting of Prof. Robert E. Rogers, chairman, of the English department; Prof. Hale Sutherland, civil engineering; and Prof. Erwin E. Schell, business administration.

SENIORS CELEBRATE CLASS DAY

An original and amusing program — a faculty committee meeting —
presentation of the Dean's portrait

FOUR years is a long time to wait, but the Class of 1921 waited until Class Day, June 9, in Walker Memorial, for the usual roles of teacher and student to be reversed, with the students on the platform and the Faculty in the audience. They made the most of their big opportunity when it arrived.

Chairman J. W. Kendall introduced the biggest attraction, a travesty on a Faculty meeting. From the performance they had evidently calculated on a surpassing forgiveness. The skit, supposed to have been staged in the Emma Rogers Room, the headquarters of the co-eds and "no man's land," opened with the registrar, Walter Humphreys, played by L. H. Burnham, seated, and endeavoring to induce an emphatically titian-haired and beauteous stenographer to "come closer."

It turned out that Bursar H. S. Ford had lost the Institute endowment fund at the race track, and that the Institute was "broke." He tried to borrow \$15 from the Faculty as they entered the meeting, but none of them had it, and the meeting went on.

Every foible or idiosyncrasy of the professors was gently caricatured. Nothing was sacred to the celebrating seniors, and, the faculty having already passed upon candidates for degrees, there was neither fear nor favor. The meeting broke up when a wireless was received by Prof. E. F. Miller, the chairman, to the effect that a synthetic cocktail, indistinguishable from the real thing, had been discovered in the Technology laboratories. The new drink was named the "Nichols Knockout," in honor of the new president, and the wireless said that four instructors were already singing the Stein Song.

The cast of characters, as taken from the program, was as follows: Prof. Charley Spofford, head of civil engineering, H. C. De Staebler; Prof. Louis Derr, the professor who weighed the world, Russell Johnson; Prof. Eddie Miller, head of mechanical engineering, A. L. Mock; Prof. Duke Passano, mathematics, A. D. Harvey; Professor Robinson, English, E. W. Booth; Prof. Slave Driver Smith, of the mechanics department, L. W. Conant; Prof. Doc Dewey, head of engineering administration, Z. P. Giddens; Prof. Doc Mueller, chemistry, J. W. Kendall; Victrola, a stenographer; and Prof. Gloomy Gahnkin, doubled by W. J. Hamburger; Registrar Walter Humphreys, L. H. Burnham; Bursar H. S. Ford, Lincoln Barker. The cast of characters was on the program in the "order of their self-importance."

The seniors marched into the hall by courses, over six hundred in all. President R. H. Smithwick, made an address, and was followed

by First Marshal L. W. Conant. In making the class presentation, a picture of the retiring dean, Alfred E. Burton, Second Marshal H. P. Junod said that if the class lived up to the example set by Dean Burton they would carve their names in the hall of fame.

The class quartet, L. W. Conant, Carl Jetter, C. S. Knight and Alfred Lloyd, sang several selections, and C. T. Proctor and F. D. Gage entertained with xylophone and piano.

In the class prophecy J. T. Rule lectured with lantern slides, illustrating the future occupations of prominent students. Garvin Bawden, ex-president of the class and ex-captain of the track team, who, according to the speaker, has dug his spikes in many a cinder track, will swing a sledge hammer on railroad spikes.

A great future was predicted for the man who brightly answered a question on the final examination with "God knows, I don't," and an even greater one for the instructor, who replied: "God gets the credit. You don't." One man would undoubtedly be a prohibition agent, said the prophet, as he could smell liquor one hundred miles away.

One of the features, billed as high tension gymnastics, had to be called off, as it had been impossible to secure leyden jars enough. This was not regretted by the first row of students, for they found that a fine wire had been strung along the seats of their chairs before they sat down, and it had been planned to have them all rise, with the aid of some hundreds of volts of electricity, at an opportune moment. This was the "shocking act" promised.

One of the novelties was a concert by wireless telephone by a talking machine in the Massachusetts Institute of Technology Radio Society station. C. A. Clarke, who announced the concert, pointed out that two slim wires strung along the ceiling were all the connection with the outside world there was. It was soon evident that it was a very potent connecter. The name of the selection was not announced, but it was readily evident to the audience that it was a composite record of a modern artillery duel, a concert, and a fox hunt. There were lulls in the battle, and pauses in the hunt, and then the music could be heard.

But, anyway, from the first volley of the heaviest howitzer to the final unmistakable and terrifying growl from the leader of the pack, it was a success, and the audience applauded.

H. C. De Staebler gave a ventriloquist act with a very live and impertinent dummy, which contained some sound advice to the seniors on the subject of "Wine, Women and Song." The committee consisted of J. W. Kendall, chairman; A. E. Bachmann, E. R. Harman, Watts Humphrey, J. R. Hotchkin and M. M. Zoller.

THE DOCTORS OF PHILOSOPHY FOR 1921

Notes on their academic achievements and research

JOHN CAMPBELL, of Glasgow, Scotland; winner of the Stenhouse Scholarship in Chemistry at Glasgow University in 1913 and "James Young" Exhibitioner in 1919; Associate of the Institute of Chemistry of Great Britain and Ireland; graduate student at this Institute, pursuing advanced studies in Electro-Chemical Engineering; author of a thesis on "A Continuous Process for the Production of Perchlorates from Alkali Chloride."

WILLIAM RICHARD HAINSWORTH, of Seattle, Washington; Bachelor of Science in Chemical Engineering from the University of Washington in 1917; Master of Science at the California Institute of Technology in 1918; investigator, Chemical Warfare Service 1918-1919; graduate student and du Pont Fellow at this Institute, pursuing advanced studies in Physical Chemistry; author of a thesis on "The Effect of High Pressures on the Hydrogen-Calomel Galvanic Cell."

MURRAY PHILIP HORWOOD, of Newton, Massachusetts; Bachelor of Science from the College of the City of New York in 1913; Master of Science from this Institute in 1916 and graduate student since 1915, pursuing advanced studies in Biology and Public Health; author of a thesis entitled, "An Investigation of the Public Health and Sanitation of Certain Urban Communities in the State of Oklahoma."

DAVID BURGER JOUBERT, of Montagu, South Africa; Bachelor of Arts with honors in Chemistry from the University of the Cape of Good Hope in 1915; Master of Science in Chemistry from the University of Stellenbosch in 1917; graduate student and Dalton Fellow at this Institute, pursuing advanced studies in Physical Chemistry; author of a thesis entitled, "The Equation of State of Methane."

MAX KNOBEL, of Walpole, Massachusetts; Bachelor of Science from the Massachusetts Institute of Technology in 1918; Master of Science in 1919; graduate student pursuing advanced studies in Electro-Chemistry and Physical Chemistry; author of a thesis entitled, "The Activities of the Ions of Potassium Hydroxide in Aqueous Solution."

MELVILLE JOHNSTON MARSHALL, of St. John, New Brunswick; Bachelor of Science in Chemistry from McGill University in 1917; Master of Science in 1916; recipient of Governor General's Silver Medal for Graduate Research in 1916; graduate student at this Institute and du Pont Fellow, pursuing graduate studies in Physical Chemistry; author of a thesis entitled, "The Heat of Absorption of Gases and Vapors on Charcoal."

CHARLES BALDWIN SAWYER, of Cleveland, Ohio; Bachelor of Arts from Yale University in 1915; graduate student at this Institute, pursuing advanced studies in Electro-Chemistry and Physical Chemistry; author of a thesis entitled, "Nitrogen in Steel."

GRADUATES OF 1921

NOTICE: This number of the REVIEW is being sent to graduates, who, by virtue of their degree, are members of the Alumni Association. Their first quarterly dues, \$3, are due in January for the year 1922 and should be sent to Walter Humphreys, secretary. However, all those who send in their dues at once will receive the REVIEW for the balance of the year free, the dues being credited to the year 1922. Non-graduates may become regular members of the Alumni Association by applying for membership on the blank which will be sent them and by sending \$3 to Walter Humphreys, secretary. Those who apply now will receive the REVIEW free until January 1; the \$3 pays for dues and subscription to the REVIEW for 1922. In order to be sure of the REVIEW send in your \$3 now and ask for a membership application blank.

The following received the Degree of Doctor of Philosophy:

John Campbell	Glasgow, Scotland
William R. Hainsworth	Seattle, Washington
Murray P. Horwood	Newton
David B. Joubert	Montagu, South Africa
Max Knobel	Walpole
Melville J. Marshall	St. John, N. B.
Charles B. Sawyer	Cleveland, Ohio

The following received the Degree of Master in Architecture:

Walter E. Church	Eugene, Ore.
Arthur G. Stanton	Portland, Ore.
Amory L. Williams	Woodstock, Vt.

The following received the Degree of Master of Science:

John McC. Abrams	Butler, Pa.
Harvey C. Allen	Burlington, Vt.
Arthur C. Atwater	Newburyport
Harrol W. Baker	Bellevue, Ohio
Orville D. Baldwin	Cloverdale, Calif.
Daniel P. Barnard	Wilmington, Del.
John R. Bartholomew	Pittsburgh, Pa.
Thomas W. Bartram	Lakesville, Conn.
Pierre F. Beaudry	Montreal, Canada
Minor M. Beckett	Hamilton, Ohio
William A. Bevan	Coronado, Calif.
Edmund E. Brady, Jr.	Bangor, Maine
Francis J. Bunker	Belmont
Philip J. Bryne	Boston
Carl E. Carlson	West Hartford, Conn.
Stanley L. Chisholm	Melrose Highlands
Douglas W. Coe	Duluth, Minn.
Stewart P. Coleman	Corpus Christi, Texas
Henry R. Couch	Charleston, W. Va.
John D. Crecca	Newark, N. J.
Frederick S. Dellenbaugh, Jr.	Chestnut Hill
Paul D. Deylitz	Muskegon, Mich.
Charles B. Dicks, Jr.	New Orleans, La.
Richard Donovan	Paducah, Ky.
Glenn H. Easton	New York, N. Y.
Edward S. Farrow, Jr.	Asbury Park, N. J.
Karl De V. Fastenau	Pekin, Ill.
William C. Forbes	Manchester, N. H.

Henry O. Forrest	North Andover
Joseph W. Fowler	Monmouth, Me.
Stanley H. Franklin	Providence, R. I.
Maurice Gerin	Coaticook, Quebec
Joseph L. Gillson	Wilmette, Ill.
Albert E. Golding	Hongkong, China
Frederick E. Haerberle	Allston
Philip E. Haehler	New York, N. Y.
Flemmon P. Hall	Nashville, Tenn.
Louis Harris	New London, Conn.
James Harrop	New Bedford
Arthur J. Hartsook	Cambridge
Charles H. Herty, Jr.	New York, N. Y.
Ernest T. Hickman	Lake Wales, Fla.
William H. Hopkins, Jr.	Cambridge
Frederick J. Hopkinson	Dayton, Ohio
Henry A. Hutchins, Jr.	Cambridge
Mark L. Ireland	Chesaning, Mich.
Nellie Jefferson	Austin, Texas
John Keats	Milwaukee, Wis.
Grover C. Klein	Brookline
Boris V. Korvin-Kroukovsky	Russia
Chu Ling	Tientsin, China
Chester E. Linscott	Roxbury
Mendum B. Littlefield	Salem
Edwin S. Lockwood	Spokane, Wash.
Ralph S. McDowell	Ensley, Ala.
Andrew I. McKee	Lawrenceburg, Ky.
Walter A. McKim	St. Paul, Minn.
Hugh E. McKinstry	West Chester, Pa.
Joe R. Mahan	Independence, Kansas
William J. Malone	Cambridge
Robert E. Manley	Corry, Pa.
Charles L. Manneback	Brussels, Belgium
Roy C. Mitchell	Salem, N. J.
Roger G. Moss crop	Rochester, N. Y.
Lewis A. Nickerson	Newton
Henry R. Oster	Utica, N. Y.
George W. Outland	Payne, Ohio
Grafton R. Owens	Manchester
Ernest F. Perkins	Melrose
Albert E. Quinton, Jr.	Newton
Nosborne L. Rawlings	Lawrenceville, Va.
Arthur E. Raymond	Pasadena, Calif.
Lawrence B. Richardson	Boston
Walter C. Sadler	Elgin, Ill.
Vernon H. Sanders	Durango, Calif.
Joseph J. Schaefer	Dayton, Ohio
Theodore L. Schumacher	Heron Lake, Minn.
Eugene W. Sloan	Salt Lake City, Utah
Edgar R. Smith	Wilmington, Del.
William M. Stratford	Houston, Texas
Perry R. Taylor	Ottumwa, Iowa
Albert H. Tomlinson	Swarthmore, Pa.
Feng C. Tsu	Chekiang, China
Howard L. Vickery	Boston
William C. Wade	Cambridge
Homer N. Wallin	Washburn, N. D.
Eugene S. Weil	St. Louis, Mo.
Leo Weinberg	Kimberley, South Africa

Emil G. Widell
 Sidney S. Winslow
 Soa L. Yang
 Philip L. Young
 Merrill A. Youtz

The following received the Degree of Bachelor of Science:

Elliott T. Adams
 Frederick W. Adams
 Wallace T. Adams
 A. B. O. Alsos
 Henry A. Alter
 Anthony Anable (As of Class of '20)
 Walter W. Anderson
 Oscar A. Anderssen
 Abraham M. Aronson
 Adolph H. Aronson
 Chelso L. Arrigoni
 Prentice D. Ash
 George H. Atkinson
 Whitney K. Avery
 Albert E. Bachmann
 Edward F. Badger
 John B. Baker
 Oliver L. Bardes
 John C. Barker
 Lincoln B. Barker
 William R. Barker
 John W. Barriger, 3d
 Ralph G. Barrows
 Maurice Basinow
 Oscar K. Bates
 Joseph H. Bayle
 Jean E. Beique (As of Class of '20)
 Roderic L. Bent (As of Class of '20)
 Paul J. Bertelsen (As of Class of '17)
 Herbert W. Best (As of Class of '19)
 Erving G. Betts (As of Class of '18)
 Frederick W. Binns
 Harold O. Bixby
 Francis L. Blewer
 George Bliss (As of Class of '20)
 Theodore W. Bossert (As of Class of '20)
 John L. Boston
 William F. Boucher, Jr.
 John D. Bowman
 Stuart E. Bradford
 Charles A. Breed
 Frederick S. Britton
 Willard A. Brolin, Jr.
 Herman Broockmann
 Charles E. Brown (As of Class of '20)
 Dayton T. Brown
 Louis J. Brown (As of Class of '19)
 Sampson Brown
 John E. Buckley, Jr.
 Laurence H. Burnham (As of Class of '20)
 Reginald G. Burr
 George H. Burt
 Spencer W. Butler
 Harold M. Butter

St. Paul, Minn.
 Washington, D. C.
 Szechuen, China
 Louisville, Ky.
 Appleton, Wis.
 Boston
 Newton
 Lynn
 Horten, Norway
 Yonkers, N. Y.
 New York, N. Y.
 Bellaire, Ohio
 Bergen, Norway
 Jersey City, N. J.
 Boston
 Middletown, Conn.
 Brooklyn, N. Y.
 Stoneham
 Brockton
 Newton
 Boston
 Newton
 Cincinnati, Ohio
 Portland, Me.
 Canisteo, N. Y.
 Wilkes-Barre, Pa.
 St. Louis, Mo.
 Brookline
 Boston
 Boston
 New York, N. Y.
 Montreal, Canada
 Gardner
 Winthrop
 Boston
 Newburyport
 Boston
 New York, N. Y.
 Newark Valley, N. Y.
 New York, N. Y.
 Milwaukee, Wis.
 Burlington
 Newton
 Allen, Ill.
 Hyannis
 Lynn
 Lexington
 Rockford, Ill.
 Jamaica, L. I., N. Y.
 Kansas City, Mo.
 Detroit, Mich.
 Boston
 Lawrence
 Fitchburg
 Lexington
 Hingham
 Omaha, Neb.
 Cleveland, Ohio
 Brookline

Vaughn J. Byron
 Frances J. Callanan
 Albert Calvert
 Thomas P. Campbell
 Tristram J. Campbell
 Malcolm P. Canterbury
 Attilio Canzanelli
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 Jung-An Lo
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 Hartsville, S. C.
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 Eaton, Ohio
 Salem
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 Shanghai, China
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 San Mateo, Calif.
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 Franklin Mitchell
 Terry Mitchell
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 Donald G. Morse
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 Goodman Mottleson
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 Christopher B. Nelson
 Clinton A. Newton
 Robert R. Neyland, Jr.
 Stuart Nixon
 Daniel Noce
 Clyde A. Norton (As of Class of '20)
 Edward W. Noyes
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 Elmer L. Oliver
 Casper, Wyo.
 New Berlin, N. Y.
 Wellesley
 Melrose
 Boston
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 Wakefield
 Mt. Gilead, Ohio
 Oak Hill, N. B.
 Grand Narrows, N. S.
 Grand Narrows, N. S.
 Biddeford, Me.
 Rockland
 Boston
 Lawrence
 Brooklyn, N. Y.
 Everett
 Barre, Vt.
 Holyoke
 Ashby
 Cripple Creek, Colo.
 St. Paul, Minn.
 Passaic, N. J.
 Rochester, N. Y.
 Freeport, N. Y.
 Rutland, Vt.
 Richland Center, Wis.
 Winthrop
 Richmond College, Va.
 Oakland, Calif.
 Short Hills, N. J.
 Short Hills, N. J.
 Chicago, Ill.
 Alma, Mich.
 Cambridge
 Salem, Ore.
 Natick
 Brookhaven, Miss.
 Lawrence
 Seattle, Wash.
 White Plains, N. Y.
 Belmont
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 Denver, Colo.
 Greensburg, Ind.
 Seattle, Wash.
 Brookline
 Boston
 Cherryfield, Me.
 Milwaukee, Wis.
 Jersey City, N. J.
 Hartford, Conn.
 Greenville, Texas
 Detroit, Mich.
 Boston
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 Newburyport
 Cambridge
 Lowell
 Rochester, N. Y.

Abraham A. Orlinger
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 Kendall Preston
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 Norton G. Raymond
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 Laconia, N. H.
 Rowley
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 Philadelphia, Pa.
 Alliance, Ohio
 Boston
 Lynn
 Claremont, Calif.
 Laurium, Mich.
 Nashua, N. H.
 South Boston
 Randolph
 Caucasia, Russia
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 Lawrence
 Lynn
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 Kansas City, Mo.
 Malden
 Brookline
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 Boston
 Los Angeles, Calif.
 Hingham
 Washington, D. C.
 Boston
 Denton, Texas
 Grinnell, Iowa
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 Beverly
 Lowell
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 Salem
 Malden
 La Crosse, Wis.
 Cambridge
 Philadelphia, Pa.
 Lowell
 Deal Beach, N. J.
 Somerville
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 Norwich, Conn.
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 Everett R. Tucker
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 Robert R. Whitehouse
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 Harding D. Williams
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 Mexico City, Mex.
 Milford
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 Lakota, N. D.
 Lawrence
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 Dayton, Ohio
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 Natick
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 Brockton
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 North Andover
 Chelsea
 Evanston, Ill.
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 Daytona, Fla.
 Newton
 Newburyport
 Portland, Ore.
 Manchester
 Cincinnati, Ohio
 Brockton
 North Adams
 Manchester, N. H.
 Bellport, N. Y.
 Greensburg, Ind.

"AS OF THE CLASS OF 1876"

AFTER a delay of forty-five years, Everett E. Hapgood of 44 Allston Heights Terrace, Allston, this June received his degree of Bachelor of Science "as of the class of 1876," Massachusetts Institute of Technology.

Mr. Hapgood who is sixty-five, retired in 1917 from the firm of Hapgood & Frost, which has constructed public and private buildings in many parts of the State.

Only a written paper stood between him and his right to sign his name B.S., and not until last fall did he make up his mind to satisfy this slight requirement.

Mr. Hapgood, who was born in Hudson in 1856, entered the Institute in 1872, shortly after the school moved to the Rogers Building on Boylston Street, where he studied architecture under Prof. William R. Ware. The class matriculated 126, but only 42 were finally graduated.

The records in the office show that Mr. Hapgood completed all his work satisfactorily except his senior thesis, and he was told that the degree would be awarded as soon as he submitted the paper.

Instead, Mr. Hapgood left to enter an office in Worcester where he worked for a year. He then fell ill from overwork and was removed to a hospital for several months.

Mr. Hapgood then decided to get outdoors with the square and the hammer, and engaged in carpentry, a trade at which he had worked during his summer vacations in Technology.

He went to Gardner for several years, and then accepted a position as manual training instructor in New Orleans. On his return three years later he became a contractor in Swampscott, where he is known to many cottagers for his work along the North Shore.

In 1901 he founded the firm of Hapgood & Frost, contractors and builders, and his firm was awarded many important contracts under the Park Department for buildings in the Jamaica Plain-Forest Hills section, as well as many town buildings throughout the State, such as the library in Stoneham and in Hanover. During the World War he retired from business.

At the department of Architecture it was said that Mr. Hapgood had inquired about his degree in 1895, and he was told that the school was ready to award it as soon as he finished the thesis.

Last autumn he again called at the Institute and received what he describes as a "revelation."

"The school had undergone a wonderful development since the time I attended its classes," he said. "After forty-five years, when I went back to see what the boys were doing, I realized that back in 1871 we were only in a kindergarten. There is now a boldness of execution, fancy work in color, experiments with concrete. Where we worked with

small sheets of paper in 1872, the present student is drafting designs on paper as large as a movie screen.

"I suppose they want them to do their 'flying in the air' while they are young."

Mr. Hapgood said the progress of Technology and of the department of Architecture was bound to reflect on the City of Boston and the Commonwealth.

"Results from this are bound to come — particularly in the Charles River section, which is one of the prettiest sections of nature now disfigured." The matter is said to be the subject of his delayed thesis.

Although Mr. Hapgood has for more than forty years been active as a practical carpenter, he said that after three years of inaction he felt he wanted to keep "doing something."

"I don't want to be idle," he said in explanation of his change of mind, "and architecture will give a man an opportunity to try his hand at being an artist."

CLAPP, '05 PRESIDENT OF THE UNIVERSITY OF MONTANA

PRESIDENT CHARLES H. CLAPP of the Montana School of Mines has been appointed to the presidency of the State University at Missoula. President Clapp has served in his present capacity for the last four years since the resignation of President C. H. Bowman of the School of Mines. Professor Clapp was acting president of the school for a year during which time Professor Bowman was on leave of absence. Upon President Bowman's resignation, Professor Clapp was appointed to fill the vacancy.

Professor Clapp was born in Boston and is thirty-eight years of age. He attended the Boston high school and is a graduate of the Institute in the Class of 1905, where he specialized in geology and mineralogy. After his graduation, Professor Clapp taught at the University of North Dakota as instructor in geology and mineralogy. He then returned to the Institute of Technology for his Ph.D. degree in 1910 and became an instructor in the Institute. Later he went to Ottawa, Canada, where he was assigned to geological and mineralogical institutions in the Canadian Rockies by the Canadian government. He later went to the State University of Arizona at Tucson, where he occupied the chair of professor of geology. Dr. Clapp went to Butte in 1916 to succeed the late D. C. Bard as professor of geology in the Montana School of Mines.

PROFESSOR DWIGHT PORTER

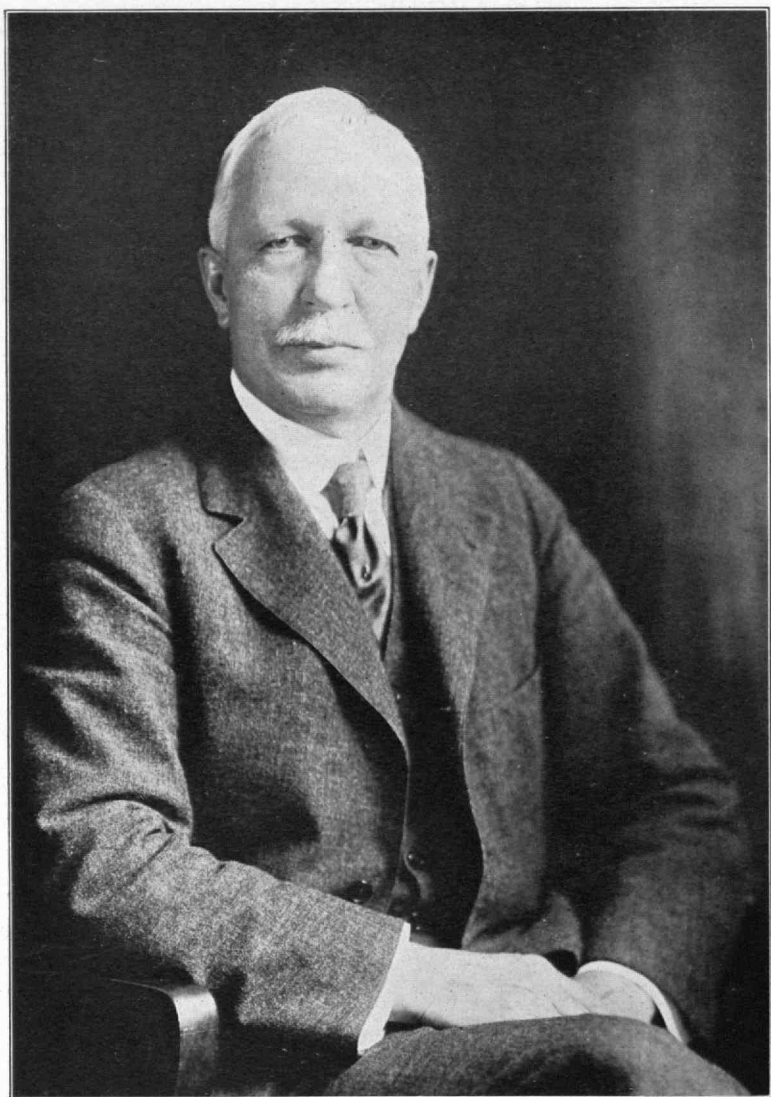
By PROF. GEORGE F. SWAIN

By the retirement of Professor Porter, after his service of twenty-eight years at the Institute, that Institution will lose the services of a man who has won the respect, admiration, and affection of all who have come in contact with him. His courtesy and kindness, his unvarying willingness and desire to give the best of himself to the interest of his pupils has endeared him to them and to his associates in a rare degree.

Professor Porter was born in Hartford, Conn., August 28, 1855, the son of James Timothy and Elizabeth Ann (King) Porter. His parents were descendants of early settlers in Connecticut.

Professor Porter, after preparing for college, was for five years in the banking business, in which he acquired those habits of care, accuracy and system which have since been characteristic. Entering the Sheffield Scientific School of Yale, he took the Civil Engineering course, was President of his Class in the Junior Year, and won numerous prizes for excellence in his studies. He graduated in 1880 and immediately entered the service of the Tenth Census of the United States, of which General Walker was in charge. His work consisted in examining and reporting upon the water power resources of certain parts of the United States. This required him to travel extensively over those portions of the country. His reports were published in the Reports of the Tenth Census and are even now valuable from an engineering point of view, from their lucidity, clearness, systematic arrangement of facts and logical presentation of the conclusions arrived at.

In 1883, Professor Porter came to the Institute at the invitation of General Walker, who had come to esteem his ability most highly from the knowledge which he had gained from Porter's work on the census. Since that time, he has been continuously at the Institute, for a year in the Mathematical Department, and since that time as Professor of Hydraulic Engineering. During this period he has given instruction to thousands of students, who have gone out, carrying with them not only the knowledge which they have acquired from him, but the inspiration which they have derived from his character. During his period of teaching, he has made various reports on engineering matters and has published several sets of notes prepared for the use of the students in his classes. Professor Porter is a member of the American Society of Civil Engineers, the Boston Society of Civil Engineers, the New England Water Works Association, the Society for Promotion of Engineering Education, the Tech and Yale Clubs of Boston, and the University Club of Malden, of which he has been president, and where he has resided for many years. He belongs to the Congregational Church and is a Republican in politics, although he has never taken an active part in political



PROF. DWIGHT PORTER

Who retires this year after long service at the Institute

affairs. He is a member of the Malden Historical Society and Trustee of the Malden Public Library.

Professor Porter's retirement will leave a gap at the Institute which it will be difficult to fill. By the faculty, of which he was chairman in 1909-1910, his good judgment, his common sense, his devotion to the interests of the Institution, will be greatly missed. His students will lose an adviser and an instructor to whom they could always look for encouragement and advice, and upon whose fairness and sincere interest they could always rely. All of his friends and associates, present and past, will join in the hopes that the years to come may bring him rest, happiness, and sufficient congenial occupation to serve as an outlet for his energies.

The present writer finds it difficult to write of Porter without emotion. We were associated in the work for the Tenth Census under General Walker, and have been associated ever since. During the many years when I was at the Institute our association was, of course, very close, and, as the years went by, my admiration, respect, and affection for him steadily increased. I have rarely, or never, known a man more conscientious, careful and painstaking in his work, or one more thoroughly lovable. I, at least, may indulge the hope that in the years to come Professor Porter's relief from the cares and duties of his Institute work may afford me the opportunity of seeing more of him than I have in recent years. If this should prove to be the case, his retirement from the Institute will be a personal advantage to me.

SELLING BUSINESS TO THE COLLEGES

The need of liaison between the professor and the business man—
liaison in the military sense

BY ARCHER T. ROBINSON

The Boston *Herald* says editorially:

We agree with the editor of Current Affairs that the article by Prof. Archer T. Robinson of the department of English at the Institute of Technology is as interesting as anything the Chamber of Commerce weekly has printed in many a day. Discussing "Education and Business," he tells the members of the chamber a lot of things they ought to know about the average academician, and college men many things they should know about the average business man. He seems to chuckle as he writes, and he does not hesitate to jab where and when he thinks a jab will do good, only the barbs are not tipped with venom and their sting is agreeable rather than painful. He wants the man at the university, often sacrificing valuable time laboriously doing small tasks which the man in business hires done as a matter of course, to know how liberal are the opinions of the average man at the head of a big business enterprise. He rather deprecates the "disposition of the academic man to tell the business man where he gets off." And here is a passage in the address, which, directed as it is against that "considerable amount of implied teaching in American colleges" that business is a game of grab, ought to be read with appreciative attention by every college graduate:

A great many years ago, when I first went into this game of teaching, I inquired of one of my older and wiser colleagues what was necessary to rise to the position of a faculty member. The answer was, "Sit still and grow a long, gray beard, and it will come of itself." I have sat still and I have grown the beard, and behold me arrived. I now look at this life and this job from the insider's point of view, and I sometimes wonder if people in the outside business world understand it as much as is necessary for their own practical interests.

In the first place, the academic life is the cloistered life. We have the conditions of the monastery of the middle ages; the low pay, the seclusion from the outside world, the confinement to sources of information that are in print, the public demand for a blameless life. I can see no difference in the two types of life except that in academic surroundings we permit a man to use tobacco and to marry, and we do not encourage him to use wine.

Under these cloistered conditions we find a great deal of inbreeding in the selection of personnel, a great deal of petty politics, a minimum of freedom, a minimum of encouragement for the exercise of initiative,

and a maximum of meddlesome interference from administrative authorities. I have studied and taken part in administrative work in other fields and I am convinced that there is no type of organization in which the administration is more hopelessly behind the times than it is in American colleges. Week after week and year after year policies are carried out and measures of petty tyranny put through which would raise a strike among any self-respecting body of laborers in industry. The academic life, in short, is a great life if you don't weaken.

To be more specific, I should like to present one or two pictures of what this life looks like from the inside. They are based on the experiences of the last two months. I had occasion, a short time ago, to visit a man who holds a distinguished professorship of international relations. Just now that is a busy job. One may imagine him sitting in a room crowded to the ceiling with books, into which apparently no fresh air had been introduced since I was last in the same room on a different errand in my graduating year of 1896. On his table were piles of reports covering the league of nations and the present diplomatic situation in Europe. He had just returned from New York.

He showed me another staggering pile of similar literature lying unopened on his desk. He employs no clerical assistant, cuts open with his own hand a raft of communications from European correspondents, files and digests this material, and attempts occasionally, in addition, to get a few hours off for meals. I call the attention of all concerned to the fact that this is a swamping flood, constantly mounting, and that every word of it is from official sources. What comes over his desk is authorized by those in authority and dressed up to represent the point of view which they wish the world at large to adopt. What can such a man know of business? How can he have time to find out what the Serbian business man thinks of the tariff, or whether the American International Corporation, on the basis of its experience in conducting a railroad survey in China, is or is not in favor of a league of nations?

Take a second picture. Half an hour before writing this article I came through the corridor near my own office and saw a colleague who holds a full professorship sitting at his desk beating on a typewriter with two fingers. He was doing work for which one ought not to pay more than \$18 a week, and doing it so inefficiently that he wouldn't have lasted at a typing job longer than one morning. His nose was down to details of the meanest sort, and yet down to details which, in the present condition of academic administration, he must attend to if he wishes to hold his job and achieve the advancement and security of tenure which can be had only at the price of occasional so-called "contributions" to the learned reviews.

We make a lot of fuss about the teaching of "bolshevism" where we think we have found it, and perhaps we are justified. But as a matter of fact, you cannot teach bolshevism to the average American college youth. He finds it already supported by a minority of his fellows in the classroom and on the campus, of a different race and a different social

standing from himself, and he doesn't like it. You can hardly teach him to listen with tolerance to any sentence which contains the word "Russia," but you can teach him that the average American business man is in the game for his own profit, and that the rule of business is, "Grab for yourself before some one else gets it away from you." You can teach him this because it is in line with his own disposition to excuse himself for being something of a rotter himself at times. Unfortunately, a considerable amount of the implied teaching in American colleges goes to the formation of this idea of business.

To send boys out into the practical world with the feeling that they are entering a cut-throat game is to send them out with a chip on their shoulder. It may take years for them to adjust themselves to the actual game of life and to realize that in the long run you can help yourself to rise only by helping all those in your organization. In any case, people who take this view of business are likely to prefer the white collar rather than the production end of an enterprise. If the game is to grab, it would seem better to let some one else make the product and then figure to be high up in the office organization which takes it away from him.

I think there is a great deal of white collarism in the attitude of the average college man looking for a job. I know it would be far better if many of the graduates of our own institution were willing to enter at the bottom and get their hands dirty; to learn to deal with labor at first hand and to work up gradually through the superintendent's job and I believe that if we could show them a picture of industry at its best and acquaint them with the dreams of the men in high positions today who are going to make it still better, we should bring them up finally in middle life into positions of control with a solid knowledge of concrete details to back their executive decisions. We cannot do this, I think, until we teach them to respect the whole game of industry and the whole business organization which overlies it and makes possible the distribution of its products.

Another unfortunate effect of this lack of sympathy between the business and the academic worlds is the growth of a disposition to waste a year or two in business before settling down to serious work. It is hard work to make the youngster who has just entered an office realize that he is doing something worth while. His imagination is not fired by the job. Its broader policies and its place in our national game of making a living are unknown to him. His big boss looks too often like somebody who, by superior trickery, "has got his first." Possibly chance helped him out. Probably he hasn't very much brains. It seems doubtful whether he could pass a college entrance examination in advanced algebra. His acquaintance with Italian opera is probably as doubtful as his taste in cigars.

If chance helps one man, chance will help another. Perhaps a turn in the market, perhaps the formation of an acquaintance at dinner some day, may give the youngster his opportunity. Work, hard work, solid knowledge of the business, study of the job just above — these

are all right for the middle class youth, but he was only a "grind" in high school or college, and he will probably go on working for somebody else as long as he lives. For the boy of real spirit in a game like this the motto clearly indicated is, "I should worry," and his conceptions of the kind of game he is playing are influenced in part, I am inclined to believe, by his academic teaching.

What, then, is the answer, and what is the practical duty of a business man who believes in business, and who knows that unless we all believe in it we are all going to go more or less hungry? The answer is, sell business to the colleges. When you meet academic men talk to them about yourself. When you are asked to speak in a college course or before a college audience, never lose the chance. Don't be impressed with the academic surroundings.

Try to forget the number of teachers who got your goat when you were a youngster, and talk to them and to their classes as man to man. Don't prepare a formal "address." Leave that to the professors. If there is any faith in you, let it out. If you know anything about how the weakling and the cheat in modern business are supported and made moral, whether they like it or not, by the help of business organizations; if you know anything about the ethics of business; if you know anything about the spirit of co-operation which must pervade every successful organization; if you are impressed with the fact that under the present conditions of keen competition one must be more or less morally decent to succeed, let out your faith.

Maybe the man who asks you looks rather dry and academic. Perhaps he talks in a language with which you are not wholly familiar. That would not be at all strange considering the conditions of his life and of his job, but when you have finished your lecture and got away with it, sit down in the quiet of his study for a few moments of personal conversation with him.

You will find him a man like yourself who, on the whole, is able to pick out a man when he sees one and on the whole tends to believe that people are decent provided he knows them. The reason he has adopted a somewhat suspicious attitude toward business is that he has not met enough business men.

WHERE THE MONEY GOES

The Financial Administration of M. I. T.

THE administration of the Massachusetts Institute of Technology for one year requires the expenditure of upwards of one and a half million dollars. Just where this huge sum goes to and incidentally just where it comes from, is a matter of which a careful record is kept, and one which in many ways is quite interesting.

The debit side of the Institute's financial statement can be divided into four main divisions, namely, instruction, maintenance, operation, administration and research, in order of magnitude. These items are exclusive of depreciation and interest on investments, and form a grand total of \$1,396,000. The major portion of the instruction expense is incurred in the salaries of the 58 full professors, 82 associate and assistant professors, 110 instructors, and 95 assistant instructors composing the instructing staff. To recompense these men, some of them also for summer school services, costs \$751,000, or 58 per cent of the income from tuition fees. The salaries of the professors range from \$2,600 to \$6,000; of instructors, from \$1,400 to \$2,500. The staff accessory to teaching requires \$19,000 and departmental supplies cost \$75,000. Three per cent of the tuition is devoted to the upkeep of the research laboratories, in which many members of the faculty are doing valuable work.

The maintenance and operation of the Institute's big plant is the most interesting and the most complicated expense item, and the Superintendent of Buildings and Power, Mr. Smith, is in supervision of a multiplicity of activities which few realize. The staff of two hundred or more at his disposal is composed of carpenters, painters, electricians, plumbers, locksmiths, etc., down to the thirty-eight janitors who clean the 1,200,000 square feet of floor and the eight window washers that keep the 200,000 square feet of glass spotless. The total cost of such building service is approximately \$150,000. An equal sum is necessary to maintain the power plant, the latter providing not only heat, light, and ventilation, but also the means for operating the steam and machine tool laboratories and for producing compressed air and suction in the chemical and physical laboratories. The magnitude of the power development can better be appreciated when one considers that the plant burns thirty tons of coal a day; that the annual consumption of electricity is 1,750,000 kilowatt-hours of alternating current and 75,000 kilowatt-hours of direct current; and that the volume of space to be heated and ventilated in 12,617,000 cubic feet.

Conspicuous among the other operation expenses is a telephone bill of \$10,000 a year for the four hundred odd telephones in the buildings. Janitors' supplies (lamps, etc.), trucking, repairs and similar items call

for \$128,000 more; and insurance, advertising, and printing account for \$22,000. It is interesting to note in connection with the latter figure that the insurance rates are materially lowered by the mere fact that all of the janitors and watchmen can be concentrated in the main lobby within five minutes.

The actual administration of the Institute entails a printing bill of \$18,000 and a salary item of \$93,000, the former covering the publication of the several catalogues, schedule cards, etc., and the latter representing the payroll of the administrative officers and their assistants.

Diminutive in comparison but notably effective is the \$42,000 devoted to special research.

The credit side of the Institute's financial statement is composed normally of three main items: tuition fees, rentals of all kinds, and the income from invested funds. The tuition charge of \$300 a year forms an aggregate of \$744,000, applied in accordance with the following table:

Instruction	\$161.30	54 per cent
Maintenance and operation	105.90	35 per cent
Administration	23.80	8 per cent
Research	9.00	3 per cent
	<hr/>	
	\$300.00	100 per cent

It has been estimated that the average student has 1440 hours of lecture and preparation per year, 660 of them being preparation. At this rate the cost of each lecture or recitation is about 38 cents, whereas to meet actual expenses the figure should be 51 cents, or tuition of \$400 instead of \$300.

The income from invested funds is about \$525,000, and that from the rental of dormitories and lockers \$56,000, making a grand income total, with tuition, of \$1,325,000.

For purposes of clarity and comparison, a condensed financial statement is reproduced below:

DEBIT

Instruction

Salaries of staff	\$640,000
Summer schools	17,000
Staff accessory to teaching	19,000
Departmental supplies	75,000

\$751,000

Maintenance and Operation

Building service	\$150,000
Power plant	150,000
Janitor supplies, trucking, etc.	128,000
Repairs	32,000
Insurance, advertising	22,000
Telephone	10,000

\$492,000

Administration

Salaries	\$93,000
Printing for students	18,000
	<hr/>
	\$111,000
Research	42,000
	<hr/>
Grand Total (exclusive of depreciation and interest on investment)	\$1,396,000

CREDIT

Tuition fees	\$744,000
Income from funds	525,000
Rentals (dormitories, lockers, etc.)	56,000
	<hr/>
Grand Total	\$1,325,000

— *The Tech Engineering News.*

CHEMISTS HONOR WHITNEY, '90

IN recognition of the many inventions through which he had applied chemistry to the service of mankind, Dr. Willis R. Whitney, '90, V, has been awarded the Perkin medal, one of the highest honors in science, given for the highest achievement in applied chemistry. It is named for Sir William Perkin, the distinguished British chemist, discoverer of the first processes for the manufacture of aniline dyes from coal tar.

Dr. Whitney is best identified through his work in perfecting a detector for giving warning of the approach of submarines, which was put into practical application during the European war at the Nahant station of the United States Navy. As a member of the Naval Consulting Board, he did much for the development of radio telephony and radio telegraphy while the conflict with Germany was in progress. In electric lighting the first radical improvement in the carbon incandescent filament since Edison was due to the personal work of Dr. Whitney. He devised a filament which had a new form of carbon which gave twenty-five per cent more light for the same wattage than the standard carbon filament lamp.

Among other investigations made by him have been the study of the laws of heat conduction and radiation, the dissociation of gases at high temperatures and the transformation of other forms of carbon into graphite.

The presentation was made at Rumford Hall, for the American section of the Society of Chemical Industry, by Dr. Charles F. Chandler, formerly president of the American Chemical Society, and at one time head of the Department of Chemistry at Columbia University. Congratulatory addresses were made by Drs. Elihu Thomson and Arthur D. Little.

Dr. Whitney, in his address of acceptance of the medal, declared that one of the greatest advantages in chemical science had been the doubling of the number of available metals and thus making possible the development of valuable alloys. He said metallic calcium had been used during the war as a generator of hydrogen for deep sea sound detecting devices and as a purifier for argon, and had become the basis of a considerable manufacturing business.

"Possibly one of the biggest things in chemistry lies in agriculture," he added. "It is admitted that we need more and better fertilizers. We now use nearly \$200,000,000 worth annually. It is true that we have spent many million dollars on nitrate plants. We want synthetic ammonia, and we can get it because, during the war, we were forced to adopt production methods derived from foreign chemical research."

Dr. Whitney, in conclusion, gave an eloquent prophecy of the

developments which would come to man both physically and mentally through scientific research.

Dr. Whitney was born in Jamestown, New York, August 27, 1868. He was graduated from the Massachusetts Institute of Technology in 1890 with the degree of Bachelor of Science, and in 1896 received the degree of Ph.D. from the University of Leipzig. He returned to his alma mater as assistant instructor in Sanitary Chemistry, where he remained until 1904, by which time he had been made assistant professor of Theoretical Chemistry. Since 1900 Dr. Whitney has been director of the Research Laboratory at Schenectady. Among his early works, which was done in conjunction with Prof. A. A. Noyes, was the invention of a process through which alcohol and ether can be recovered from collodion, which insured the commercial success of the present photographic film.

Dr. Whitney is a director of the American Chemical Society of which he was president in 1909; served as president of the American Electrochemical Society in 1912, and is also connected with the Society for Testing Materials, the American Institute of Mining Engineers, the American Academy of Arts and Sciences, the American Association for the Advancement of Science, and other learned bodies.

NAVIGATES ATLANTIC COAST IN SMALL CRAFT

Cleverly, '14, rivals the cruise of the "Snark"

COMPLETING a sea trip which started at Bayonne, N. J., last August, and which carried him down the Atlantic and Gulf coasts, Capt. F. C. Cleverly, formerly performance engineer of the United States Shipping Board, reached Houston on April 8 in his 21-foot open dory, the "Yankee Tourist."

In some respects the cruise of Captain Cleverly and his "Yankee Tourist" rivals that of Jack London and his boat, the "Snark."

He was sole voyager — master, mate and crew — and there were times when he could have used more than one pair of hands.

While sticking close to shore and seldom being out of sight of land, Captain Cleverly encountered considerable rough weather and more than once went overboard. His last mishap of any consequence was when he left Sabine for Galveston. He lost his rudder on the Sabine Jetty and was compelled to use an oar to steer his craft during the remainder of the trip to Galveston.

Captain Cleverly laid his course by means of lights on the Atlantic Coast, and using the sun, the moon and the stars when other guides were not available in crossing the gulf; for, be it known, Captain Cleverly traveled without compass.

Off Fort Myers, Fla., one night the "Yankee Tourist" came very near going on the rocks of the jetty. Encountering a rather rough sea and not being able to find his way to the harbor, Captain Cleverly finally decided to cast anchor and stick it out. With the light of morning he found he was only a few hundred feet from the jetty. Had he continued his course, the boat would have gone onto the rocks and been wrecked.

Captain Cleverly traveled by easy stages, stopping frequently at ports along the Atlantic and Gulf coasts. Once, however, he was aboard his craft for five whole days.

"I got a little lonesome that time," he said.

The "Yankee Tourist" is equipped only with sails. Consequently, she was subject to the wiles of the winds. There were several times during the voyage when heavy seas half filled the craft and then the master, mate and crew got soaked to the skin.

"It was a fine trip, though, and I enjoyed it thoroughly," said Captain Cleverly. "I am going to stay here for a while and will ship the 'Yankee Tourist' back to Bayonne. Later on I hope to go back to New York to engage in naval architecture."

Captain Cleverly is a marine architect and was a member of the class of 1914 at Technology. His knowledge of boats and of the sea, however, was not all gained in school, for he has sailed the seas. Prior to

the war he was connected with several ship-building concerns, and during the war served with the United States Shipping Board. In the capacity of performance engineer, he was sent to Houston and left this city a year ago.

"I note considerable advancement during the past year, particularly in shipping," he said. "The growth of shipping has been phenomenal."

FACULTY TAKES INTELLIGENCE TEST

Are examined to determine "mental age"—altee samee like
fleshman!

No Technology student ever awaited the results of final examinations more eagerly than the Technology faculty anticipate the results of the intelligence test which they took at a recent meeting of the Faculty Club. The tests were given to the professors by Prof. Edward Shaw of the Harvard School of Education, who had the educators place on their paper some mark so that they can be identified when the papers are handed back.

There was much rivalry between the faculty members at the examination, when they vied with each other in the time it took to finish. Now the scene has shifted to the examiners, who will place on the papers the mental age of the professor examined. The papers are to be returned to Dean Burton for distribution.

The rivalry between the professors has spread to the students, who are making bets on the results. One student, who has been flunked for three terms running by the same instructor, is looking for takers on the bet that his particular aversion will be found to have a mental age not above ten years.

That students and professors are pretty much the same after all was shown by the manner in which the test was taken. As many different attitudes were shown as if the men being examined were students. There were some frankly hopeless, who gave up and smoked cigars.

Most surprising of all, there were some with the attitude which is the bane of professorial dignity, flippancy. One of the problems concerned a man with an express wagon delivering packages in Los Angeles, where the driver must always turn to the right and stop at the side of the street where the house is located.

"How long do they take to deliver packages in Los Angeles?" said one dignified and elderly mathematics wizard after ten minutes' struggle with his pencil trying to trace the route of the wagon. But Professor Shaw was not to be caught. "That," he said, "depends on the intelligence of the driver." Whereat the professors indulged in mild laughter at the expense of their colleague.

So now they are all waiting to learn their mental age. The results will probably not be so bad as one faculty member feared, who remarked: "If they go by my paper they'll think I have never been born."

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BOOK REVIEWS

RELIGION AND BUSINESS: BY ROGER W. BABSON, '98, President of the Babson Statistical Organization: Macmillan, New York.

These are the days in which the Church and Business are edging toward a show-down. In America, Canada and England one may see countless Synods, Councils, Federations, World Movements, *et al.*, Catholic, Episcopalian, Methodist and others, adopting resolutions condemning modern big business in its treatment of labor and urging that "industrial democracy" which so many confound with sovietism pure and simple. And on the other hand manufacturers' associations, chambers of commerce and the like, particularly in Pittsburgh, are telling the church in loud and threatening tones to let well enough alone, to stop preaching the parable of the Vineyard and get back to the parable of the Talents, if it does not want to kill the goose that lays the golden eggs. They remind the Young Women's Christian Association of what happened to the Interchurch World Movement for upholding Mr. William Z. Foster and the steel strikers. And in the Episcopal cathedral of New York two bishops contradict each other categorically as to the duty of the church in the face of the industrial question.

We have plenty of vague and sloppy Christian literature apparently without a gleam of economic sense; and we have plenty of advanced economic or pseudo-economic literature, of the *New Republic* and *Nation* school, written largely by "liberal" thinkers who never knew Christianity. We have little enough literature of the sort of which this book is an example. Mr. Babson is primarily a statistician. . . . no! he is primarily a Christian who has made himself well, as they say, and favorably known, in the profession of statistician, analyzer of business conditions, and expert consultant on business problems.

As his publishers say: "His message to the business men for whom he writes may be summed up as follows: Statistics teach that a business man will be happiest by following the teachings of Jesus; statistics teach that the golden rule is practical; statistics teach that prayer is a real power with unlimited possibilities; and statistics teach that religion is the greatest of our undeveloped resources."

Mr. Babson hasn't very much use for the church as organized, managed, financed and unenergized today, but he hasn't any use at all for those who advocate scrapping the church and relying on the ethical premises of socialism. He is largely in accord with the original program of the ill-fated Interchurch World Movement; he advises business men frankly and forcefully that they have got to let organized labor in on the ground floor for religious reasons even more than economic reasons; and he states over and over his belief that the church must be a stimulus to production, a producing center itself, and that the prime function of

religion is greater production of every sort — that it comes to bring life more abundantly.

This thought brings him to that chapter which will doubtless rouse the greatest antagonism among a certain type of business man, greater even than his advice about the labor problem, the chapter entitled "The Greatest of All Undeveloped Resources — Faith," which with succeeding statements, is a testimony to the unique power of prayer in producing personal and industrial efficiency, the attainment of large practical results through spiritual means. Mr. Babson apparently dislikes the word "mysticism," which he seems to associate with mere singing and talking, but in the truest and most effective meaning of the word, his own gospel as laid down in these chapters is nothing but what might be called Applied Mysticism, or The Scientific Application of Prayer to Concrete Problems. In this Mr. Babson's reasoning is largely in line with the teachings of "New Thought" and directed to the same ends.

One would be willing to wager from this book that Mr. Babson has little or no use for G. Bernard Shaw, but any one who ever read that audacious and stimulating preface to Shaw's "Androcles and the Lion" will not fail to recognize the likeness between Mr. Babson's economic or capital-labor beliefs and Shaw's analysis of the original gospel of Jesus — as distinguished from Paul's perversion of it . . . as the only possible basis for a decent economic civilization today. And in Mr. Babson's statement that the forces of righteousness must fight as hard as the forces of unrighteousness if they ever hope to prevail, you will find the theme to which Shaw devoted the whole play of "Major Barbara." Mr. Babson is also among the prophets.

This will be a difficult book for all those — and they are many — who refuse to listen to any criticism of the Christian Church in its present form. This will be a more difficult book for those — and they are many more — who believe in keeping religion and business separate, who ask blandly in response to Labor's demands, "Am I my brother's keeper?" and who are too hard-headed to see in Mr. Babson's gospel of business efficiency and production through prayer anything except sheer sentimentalism and moonshine. But for the man who realizes wistfully that the church is in a bad way, that the relation of employer to employee is in a worse way, that business is only forty per cent efficient, as engineers tell us, and that materialism has covered over and left untapped the ancient flow of spiritual power that may well be applied with startling results to our own civilization, for greater production and more equitable distribution . . . to all these readers, many, more than they themselves realize, but unorganized and half asleep, this book should prove a wakening and a pentecost.

For the curse of America today is that man who, in the words of the ribald and forgotten song of Eddie Foy,

" . . . goes to church on Sunday
And passes round the contribution box-box-box.

In his office on a Monday

He's as crooked and as cunning as a fo-ox;

On Tuesday, Wednesday, Thursday, Friday, Saturday,

He's skinning everybody that he can,

BUT he goes to church on Sunday

So he passes for an *honest man!*"

R. E. R.

IN THE PUBLIC EYE

WHY does DR. JOHN DUFF, '81, V, of Charlestown always wear a white felt hat? He has done it for twenty-eight years. For twenty-eight years also, ever since he donned his first white hat, Dr. Duff has attended to the surgical work at Station 15 in Charlestown. Born in Charlestown on August 28, 1860, he grew up in the historic atmosphere of the old town. He attended the Prescott and Charlestown high schools, graduated from the Massachusetts Institute of Technology in 1881 and from the Harvard Medical School in 1890.

During the first two years after graduation from Technology he taught in the mining laboratories of the Institute, and later for four years practiced the profession of mining engineering and assaying in the West, chiefly in Idaho, Colorado and eastern Oregon. Concluding that the western mining camps were no place for a man contemplating matrimony, he took up the study of medicine. After graduating from the Harvard Medical he traveled abroad, studied at the Rotunda Hospital in Dublin, and returned to Charlestown, where he has ever since practiced his profession.

Dr. Duff enjoys another distinction. He makes all his professional visits on foot or with the help of the electric cars, which pass his door almost every minute of the day. Horses or automobiles he doesn't own. Night and day he prefers to walk. It keeps him in physical trim. And, as many of his patients live within a short distance of his office, he makes better time. With a good pair of sturdy legs he never gets snow-bound as several of his colleagues did last winter. At the time of the influenza epidemic three years ago, however, he kept the taxi cabs busy eighteen hours a day.

When a student at Technology, Dr. Duff won the Institute record for the mile walk, which he held for eleven years. This was on a board track, twenty laps to the mile, in the old gymnasium on the corner of Clarendon and Boylston Streets, where the Boston University business administration building now stands. Time, 7 minutes, 24 seconds. Slow for a cinder path, but speedy enough for a board track.

He also did something at the shot put and the tug-of-war. With him on the championship Technology tug-of-war team were Major Frank H. Briggs, T. Coleman du Pont and Frank C. Harriman. The doctor was the first vice-president of the Institute Athletic Association formed in 1880.

MISCELLANEOUS CLIPPINGS

Largely concerned with our new president and his
inaugural address

PRESIDENT NICHOLS

UNDER the most pleasant auspices, natural and human, Ernest Fox Nichols, eminent scientist, educator and administrator, became president of the Massachusetts Institute of Technology yesterday. The occasion was one of simplicity, befitting the character and following the wish of the man himself; but there was through it all a deep note of consecration to a magnificent duty and of confidence that the task of guiding aright the splendid school of which the State is so proud is in competent hands.

It is given to few men — to no other that we recall — to have been successfully at the head of a great college of the liberal arts and then to become the president of an equally great school for the training of men in pure and applied science. It proves the breadth of Dr. Nichols's mind and the value of his varied training. These qualities were luminously displayed in his brief but compact, thoughtful and suggestive inaugural address. They promise much for the future.

The *Post* extends to President Nichols its heartiest and best wishes for a long and successful administration, one that shall be fruitful in all ways that the Institute may require. — *Boston Post*.

TECH'S NEW PRESIDENT

The selection of Ernest Fox Nichols, lately president of Dartmouth, but more recently a professor of physics at Yale, to be the new head of the Massachusetts Institute of Technology comes as a distinct surprise, chiefly because Dr. Nichols was assumed to have abandoned the field of college administration after his several years of experience at Hanover. There is no doubt, we suppose, that he has succeeded much more notably at scientific research than he did as the executive head of Dartmouth. But it has to be remembered both that Dr. Nichols had an unusually hard task to perform at Dartmouth — following, as he was called upon to do, so unusual a leader as Dr. W. J. Tucker — and that his scientific profession but little fitted him to take the helm in a college the traditions of which were not scientific but, as the phrase goes, "cultural."

To follow the late Dr. Maclaurin as president of Technology is bound to be no easy task, either; but at least Technology is a scientific institution, with the aims and purposes of which so eminent a physicist as Dr. Nichols should be in the heartiest sympathy; and it is further improbable that a more eminent investigator in his line could be found today in the United States than Dr. Nichols.

Thanks to the munificence of recent benefactors, notably Mr. George

Eastman of Kodak fame, Technology is superlatively equipped and should necessitate a much lessened demand upon the president for collecting money — always the most important and most distasteful of presidential tasks in the average college. Dr. Nichols will be spared much of this work and may the better concentrate upon the scientific development of this most admirable school, unembarrassed by the traditional handicaps. To one of his attainments and aspirations, the proffer of this presidency should be most alluring and implies the highest possible compliment. — *Lowell (Mass.) Citizen.*

IMPORTANCE OF THEORY

Those who profess to scorn theory, who boast of being practical minded, might be jogged out of their self-satisfaction by noting the words of the new president of the Massachusetts Institute of Technology on the occasion of his induction into his impressive office. This great educational institution ranks high as a school of applied science. And its policy for some years has been definitely directed along the line suggested by the late President Maclaurin: "A technical school is not doing its whole duty unless it keeps in the closest touch with industry."

Dr. Nichols's inaugural address was devoted in part to the consideration of familiar industrial problems which it is Tech's mission to help solve. But there is something more important, because fundamental to all else, as Dr. Nichols sees it, the cultivation of pure science.

That applied science is "practical" is nowadays generally admitted, even by practical men of the most stubborn type — those who would work with the same tools their fathers and grandfathers got along satisfactorily with. Pure science is theory, unquestionably. Why waste the educational period of youth on it?

A sufficient answer should require only a little thought, to be sure. Few of us, perhaps, have leisure, if we have inclination, capacity or training, for real thinking — the easily understood answer that Dr. Nichols gives may be welcomed, accordingly. He reminds us that applied science was not, and could not have been, taken up and pursued until and unless there existed a fund of results or useful speculations from the processes of pure science. Applied science does not originate anything. It is an intermediary process. It turns knowledge that has been previously acquired, without thought of tangible benefit to anybody, into knowledge applicable to the material profit, convenience or comfort of man. The telephone made its inventor immortal. But what he owed to those who, from the time of Franklin's kite, had worked in the laboratory of pure science is incalculable.

The new president of Technology gives warning that the accumulation of centuries in the field of pure science, on which applied science has been making heavy drafts, with amazing results, during recent generations is about exhausted. It is a rather startling statement. Workers in the technical world, generally, probably feel that the fund is inexhaustible. But the researcher in applied science who on setting himself to an industrial problem finds nothing to work with is bound to

realize the need of its replenishment. As Dr. Nichols observes: "That you can't apply knowledge you haven't got needs no proving."

Here is an announcement of advanced educational policy. It is apparent that of the two types of laboratory research cultivated at Technology, pure science will from now on find special encouragement — as necessary to train young brains to supply the "depleted reserves" of applied science, and maintain the institution in the front rank of contributors to industrial progress. — *Providence Journal*.

SCIENCE AND INDUSTRY

Most observers will agree with Dr. Ernest Fox Nichols, in his statement in his inaugural address as head of the Massachusetts Institute of Technology, of the two outstanding industrial problems of the times. As becomes a scientist, Dr. Nichols first mentioned more intensive application of scientific knowledge and research to the processes of industry. However, he did not hold it out as more important than the other problem, the cultivation of more wholesome relations between labor and management. Most of us will probably give first place to the latter, since it involves a more human element and also because if hostility between labor and management is increased, there will not be much place for the benefits of scientific research.

Dr. Nichols declared that technical schools must train their students to meet this gravest of their future responsibilities, the organization and management of men. There is surely need for better relations between these two, labor and management. The spread of hostility is due to extremists on both sides, who play upon the ignorance of the rest on their side. On the one hand, we have the management that seeks to get the utmost possible out of labor, without regard to the rights or the human interest involved. On the other, we have the agitator that impugns all management as a blood-sucker preying upon the working class and grinding it beneath the heel of a relentless tyranny. The follower of the one does not give fair wages, the adherent of the other does not give a fair day's work for a fair day's pay. Add to these those who, without hostility to the worker, aim at an efficiency that disregards his physical and mental capacity and those workers that demand for the worker all the profit of his labor, and we have the most important of the things that tend to make difficult the relations between the employer and the employee.

If Massachusetts Institute of Technology will but train its students to regard always the human element in the labor problem and to inspire the worker with the conviction that the management seeks fair returns not only for itself but for its workers, it will have done much to lessen the tension between the two. The worker will be inspired to give a better day's work when he knows his efforts are appreciated, and the return to the management will be greater than that from pushing the employee to the limit of endurance and small pay. — *Rochester Post*.

THE MAIN CURRENT

The technical experts in modern industry occupy one of the key positions in modern society — possibly the key position. And it is a position which is destined to become more strategic in the years which lie before us. Our industrial machine, huge, complex and highly specialized cannot function without them, and if it does not function our whole social organization is thrown violently out of gear.

These men are in a key position in another respect than their technical indispensability to industry. They are one of the vital points of contact between the two groups which are contending for supremacy in the Western nations: labor and ownership.

The new president of the Massachusetts Institute of Technology, in his inaugural address, intimates that he is fully alive to this situation and its importance. He stresses the necessity of cultivating and understanding the "human relationships" of industry, which have been well-nigh dissipated by the disappearance of the old-time personal employer and the rise of the impersonal corporation managed by a board of directors.

The profound and all-pervading unrest in modern life, the deterioration in the standards of workmanship in many a trade, the discontent and dissatisfaction in work which has been deprived of its personal interest, are all symptoms of the same complaint.

In the course of his address the new president of Technology takes occasion to define education. He repeats Dr. Nicholas Murray Butler's formulas about correct English, good manners, power of reflection, power of growth, sound standards, and so on, and appends to them, "Power to marshal the world's experience in at least one field and to use it constructively for further constructive achievement."

This last suggests the credo of the specialist. That something more is needed is affirmed in President Nichols's dwelling on the necessity for more humane relationships in industry. To his definition of an education it would be well to add:

"Power to recognize the main current in the life of one's own time and to link it up with the main currents of the past."

There is evidence in certain parts of President Nichols's inaugural that he possesses this power. — *Boston Globe*.

THE TECH ESPLANADE

The inauguration of President Nichols gave to some thousands of the friends of Technology opportunity to compare the present aspect of the monumental group with the looks of things when the new buildings were dedicated. The Walker Memorial had then not been built and the exercises were held in the open, in the great forecourt under glittering sunlight with a brisk and all too cool east wind. With the growth of trees and shrubbery on both sides of the basin, and the completion of the Walker Building, the President's house and the first dormitory building, both the landscape and the architectural intentions of the

site are realizing themselves with striking beauty. Visitors were universally impressed with the charm of the noble river-scene as the central feature and crowning achievement of greater Boston's metropolitan plan.

Viewed from the Cambridge embankment the effect of the Back Bay region is quite satisfactory, its good skyline, like that of an Old World capital, free from skyscraper monstrosities and letting the towers, domes and spires contribute their accentuation just as intended when built in the last century. All towers, domes and spires were expected to behave this way until Oshkosh, Kalamazoo and Oklahoma City began to make of themselves sample-sections of New York and Chicago. The esplanade on that side, with its appropriately named Mill Dam Path paralleling Beacon Street, and its low river-wall rising only slightly above the water, spreads a beautiful mat of verdure along the two Boston sides of the basin between the solid reds and browns of the houses and the liquid blue of the river. It all seems quite as it should be over there, the two low-lying structures of the esplanade fitting in cosily among the greenery; the pretty tea-house and the water-side annex of the Union Boat Club; then the terraced lines of dwellings climbing Beacon Hill up to the State House.

All this part of Cambridge is so rampantly industrial that it seemed vain to hope that the esplanade would not be marred by its intrusion, especially since mechanical plants had possessed themselves of the ill-starred old Shoe Trade Exhibition building of Quixotic inception. But happily there now seems an encouraging prospect. Perhaps the best vista, looking back up the basin, afforded by this pleasant walk to old Boston is that from the West Boston Bridge just after mounting the steps. One looks down on the more than half-mile reach of the Cambridge esplanade running straight to Harvard Bridge. And the receding line of facades has throughout the effect of harmonizing with the Technology group at the further end. The old exhibition building, wrought in stucco, did credit to the architect, Mr. Graham; it was his first go at monumental architecture, and eventually it led to a commission for his beautiful Forsyth Dental Infirmary, facing the Fens. It is now shabby enough in its nearby effect, but from a distance it does not mar the ensemble; the smoke-pipes thrusting themselves up through the dome make it seem, in its forlorn dignity, something like a seedy old-time gentleman down on his luck — reminding one of what one encounters now and then in Europe when a ruinous chapel or palace has become a smithy or a stable. So may it stay as it is until perhaps Technology acquires it with a view to ultimate use.

Just to the eastward of this, after a lot of vacant land, two excellent buildings do good to the eye; their buildings deserve all praise for making them a credit to their sites. They are both commercial; the second manifestly so, but the nearer one might well be taken for a handsome public schoolhouse until the inscription over the entrance is seen: "Arthur D. Little, Inc." It is the laboratory of our leading commercial chemist. The higher building is devoted to the distributing stores of

the Filenes: a business air it has, comely and dignified; a sense that the Tech buildings stand at the other corner of the middle basin is evident; there is no imitation, but tasteful agreement. If future occupants of the remaining sites will only show a like respect for the situation!

The great scar in the basin prospect, particularly as it lies close to Technology, is the Harvard bridge, which looks as if deliberately intended to be as hideous as man could make it. Tech deserves a better approach, noble and monumental. It will come in due time. — *Boston Herald.*

INDUSTRIAL LEADERS

When Prof. Dugald C. Jackson, of the Massachusetts Institute of Technology, in Chicago recently, declared for a co-operative system of education linking colleges and workshops he voiced the sentiments of many of the great captains of industry. They long ago realized the importance of specially trained men in their varied industries, and that the colleges have been responsive marks an important and progressive step in industries.

Technology today is training men for the General Electric Company of Lynn, and most promising results have been obtained. The value of the system is that "book knowledge" is tried out by practical demonstration at bench and machine. These new industrial leaders are equipped not only to do things themselves, but to give their fellow workers, lacking their advantages, wise counsel promotive of efficiency.

Not only has the quality and the character of the work been improved and inventive minds stimulated, but there has also been awakened among the shop men a realization of possibilities absolutely unknown under that old routine of doing a day's work for the weekly envelope and for that alone. — *Boston Post.*

DEAN BURTON

Thousands of students have known Dean Burton as a professor, guide, and friend. Perhaps it is due to his kindly smile which never seems to fade that the Dean has succeeded so well in his relations with Institute men. His is a contagious smile, a smile which evinces a sunny disposition and a keen interest in the other fellow's problem. By his genial and cordial ways, and his unaffected interest in students and student affairs he has won the enduring gratitude and admiration of his many associates.

During his forty odd years of professional activity, Dean Burton has consistently carried out his ideal of service. It is because of his clinging to this and other ideals, that the Dean has exemplified a type of manhood which stands out in clear relief above the ordinary. No man may estimate the value of his services at Technology. Although a thorough-going engineer by profession, Dean Burton has achieved much which no mere engineer might achieve. Of his triumphs as a Dean, perhaps none is of greater importance than his successful institution

of student government at Technology at a time when the college world regarded his work with loud-voiced scepticism.

It is with an inevitable sense of sorrow that we part with this man whom we have grown to regard with mingled feelings of respect and love. Recognizing as we do, however, that the final decision in this matter rests with him, we cannot plead for a continued stay. As he leaves us, Dean Burton carries with him, in generous measure, the heartiest wishes of all his associates. For all time, the esteem and support of Technology are his. — *Tech Engineering News*.

DWIGHT PORTER

Technology is twice unfortunate at the present time in losing not only the Dean but also another man who has long been associated with him in Institute affairs, Dwight Porter.

Devoting his time and energy for thirty-five years to the Institute, he is one of the men who have made the Civil Engineering Department what it is today. Through all his years of service here, he has been far more than a teacher in the classroom sense, for all who have known him and worked under him will think of him first as friend and counsellor.

At the end of this year, Professor Porter retires to private life. He leaves behind him hosts of friends and carries with him the heartiest regard and good wishes of the student body, faculty and alumni. Though we may forget all about hydraulics, we can never forget Professor Porter. — *Tech Engineering News*.

NEWS OF ALUMNI ASSOCIATIONS

ATLANTA — ATLANTA ASSOCIATION, M. I. T. — In the latter part of May the Atlanta M. I. T. Association regaled its members with a Fish Fry at Mr. Hadley's cabin on the lake at Bull's Sluice. Mr. Hadley assured us the fish were a local product. At any rate there were plenty of them. At a late hour the penny ante was adjourned and the party motored back to the city thoroughly enjoying the moonlight ride — minus the moon. A good time was had by all. — *H. C. McLaughlin, Secretary, 609 Chamber of Commerce, Atlanta, Ga.*

BUFFALO — TECHNOLOGY CLUB OF BUFFALO. — The Buffalo Tech Club elected the following officers for 1921 on May 10: President, A. E. Sampson, '15; secretary, Ross D. Sampson, '13; executive committee, Marvinne Gorham, '93; M. T. Ahern, '06, and D. W. Wilson, '16.

We have on our list 110 members residing in Buffalo and vicinity. We hold several meetings during the year, including a joint bowling party and a picnic with the Niagara Falls Club. The monthly luncheons have been discontinued. — *Ross D. Sampson, Secretary, care Lumen Bearing Co., Buffalo, N. Y.*

CHICAGO — TECHNOLOGY CLUB OF CHICAGO. — At the annual meeting on April 18 the following officers were elected: John M. Frank, '07, president, 2850 North Crawford Avenue, Chicago; R. D. Flood, '96, vice-president, 226 West Adams Street, Chicago; D. A. Tomlinson, '12, secretary-treasurer, 111 West Washington Street, Room 1537, Chicago.

The weekly luncheons are still held at the Engineers Club, 314 Federal Street at 12.30 on Tuesdays. There were twenty-two men at the luncheon May 17 and plans for the summer outing were discussed.

Last year the outing was held in July on the campus of the Northwestern University in Evanston and was so successful that this year's outing will be held in the same place, but about a month earlier, namely Saturday, June 18, in order to minimize interference with the summer vacation period. The business manager of the Northwestern has very kindly given us the use of the gymnasium, tennis court and that part of the campus, which will give every opportunity for tennis, indoor and outdoor baseball, swimming and other sports. Later notices were sent out confirming these plans.

The following poem written by the vice-president of the Club, R. D. Flood, announced the coming event:

SUMMER OUTING

On Saturday the eighteenth of June '21,
As Fellows and Tech men before you have done,
You'll come to the Campus of Northwestern "U"
And do just exactly what you're told to do.

Which is as follows: — viz., namely, to wit,
 Take part in the "doins" wherever you fit.
 There'll be tennis, a ball game and later a swim,
 If it rains we'll be indoors in big Patten Gym.

Lend a hand in the music, or an eye to the tricks,
 And then we'll have dinner along about six.
 A caterer'll be there with plenty of grub
 Which little detail's arranged by the Club.

Make peace with your "jailer" bring two "iron men."
 If you get away early you'll be home about ten.
 Your place card is written. An' this is no joke:
 You're expected to be there — unless you are broke.

The following correspondence was with the new President:

May 18, 1921.

Mr. Ernest Fox Nichols, 2432 Kenilworth Road,
 Cleveland, Ohio.

Dear President Nichols:

At the recent annual meeting of the Technology Club of Chicago a resolution was passed giving to you as the new president of Technology, the support, loyalty and affection of the Technology Club of Chicago.

We hope that as our new president you will continue the wonderful work of Rogers, Walker and Maclaurin and that you will add new successes. We send you our very best wishes.

TECHNOLOGY CLUB OF CHICAGO,
 (Signed) J. M. Frank, President.

(Reply)

May 23, 1921.

Mr. John M. Frank, President,
 Technology Club of Chicago,
 2850 North Crawford Avenue,
 Chicago, Ill.

Dear Mr. Frank:

Thank you very heartily for your kindness in forwarding to me the resolution of support, loyalty and affection of the Technology Club of Chicago.

I have carefully gone over these three nouns and find it difficult to choose between them, although I think I like the last one best. Fortunately in this case no choice is necessary, for the characteristic generosity of Technology men gives me all three, instead of embarrassing me with a choice among the three.

It is with great pleasure that I take this opportunity of sending to the members of the Technology Club of Chicago the warmest personal

and official greetings with the hope that all Technology men may come to the same definite and clear vision of what we all wish for the future of the Institute.

With most cordial and inclusive regard,

Yours sincerely,

(Signed) ERNEST FOX NICHOLS.

During the last two months the attendance at the weekly luncheons at the Engineers Club has increased considerably and is now running thirty to thirty-five men a week. We hope that no Tech man who is in Chicago on a Tuesday will miss the opportunity of coming to this luncheon. — *D. A. Tomlinson, Secretary, 111 West Washington Street, Chicago, Ill.*

CHINA — TECHNOLOGY CLUB OF CHINA. — Alexander Ellis, '08, of Cambridge, Mass., has been elected representative to the Council, of the Technology Club of Shanghai. — *N. T. Catlin, Secretary, care Standard Oil Co. of N. Y., Shanghai, China.*

CLEVELAND — TECHNOLOGY CLUB OF NORTHERN OHIO. — Since the last issue of the REVIEW, weekly luncheons have been started for Tech men in and about Cleveland. These have been entirely informal, the men dropping in whenever convenient. Table is reserved regularly in the grill room of the Statler Hotel every Friday at 12.30 P.M. It is hoped that any and all Tech men transient in Cleveland will make themselves known at these gatherings.

In addition to the above there have been two large gatherings of the Technology Club of Northern Ohio in Cleveland.

On April 15 the club gave a dinner in honor of Dr. Nichols, whose election as president of the Institute had just been made public. The meeting was in the nature of an informal introduction of the members to Dr. Nichols and of Dr. Nichols to the Club, each person present giving a brief outline, of his career since leaving the Institute, and Dr. Nichols giving a highly revealing talk on his past connection with Dr. Maclaurin and some of his thoughts on the relations of pure science to engineering. Dr. Howe, president of Case School of Applied Science, and Professor Curtis of Western Reserve University also addressed the meeting complimenting the Institute on its happy choice of Dr. Nichols.

Another meeting of the northern Ohio men was held on May 18, which will long be remembered by those present. Mr. Charles F. Brush, inventor of the arc lamp and a life-long scientist, made the principal address of the evening, explaining some of his recent experiments on the action of gravity on various elements and giving those present an inspiring insight into his methods and his efforts to establish new scientific truths. Professor Miller of Case School of Applied Science and Dr. Nichols, both close friends and co-workers with Mr. Brush, were at the speakers' table and later discussed Mr. Brush's experiments and

work of their own in connection with Einstein's Theory of Relativity. Professor Miller had just returned from the Mount Wilson Observatory where with improved apparatus resulting from many years' experience he had at last made some satisfactory measurements of ether drift. As soon as all data has been carefully checked Professor Miller will undoubtedly publish his results. The discussion of the three scientists went considerably over the heads of the lay-members present in the latter part of the evening, but it was nevertheless highly inspiring even to those who but caught the general trend.

An address book is now under preparation giving a complete list of all Tech men in the northern Ohio district. — *Allen A. Gould, Secretary, University Club, Cleveland, Ohio.*

DAYTON — DAYTON TECHNOLOGY ASSOCIATION. — The Dayton Association held their annual dinner at the Engineers Club on April 29. A very good percentage of the membership was present. Mr. George Mead gave a most interesting talk upon paper and the condition of the paper industry at the present time.

Election of officers for the coming year was held, in which C. D. Putnam, '08, was elected president; Frank B. Heathman, '98, vice-president; Michael J. Gibbons, Jr., '06, secretary-treasurer.

Every other Saturday noon a luncheon is held at the Engineers Club, during which a talk is given by two of the members. In this way considerable interest is maintained in the organization and usually from nineteen to twenty men are present. — *Michael J. Gibbons, Jr., Secretary, 22 Oxford Street, Dayton, Ohio.*

DETROIT — DETROIT TECHNOLOGY ASSOCIATION. — The newly elected officers of the Association are as follows: President, J. N. French; vice-president, E. A. McGonigle; secretary, O. M. Davis; treasurer, M. S. Dennett; representative on Council, K. Spalding. — *J. N. French, Retiring Secretary, Marquette Building, Tenth Floor, Detroit, Mich.*

HARTFORD — TECHNOLOGY CLUB OF HARTFORD. — The annual meeting of the Technology Club of Hartford was held at the Hartford Club, April 16, 1921. The usual dinner preceded the meeting at which fifty former students of the Massachusetts Institute of Technology participated. After the dinner, a distinguished list of speakers was heard, among these being Dr. A. E. Kennelly, head of the Electrical Engineering Department of Technology, J. M. DeBell of the Industrial Research Department of Technology, E. R. Wilner, who had just made a dramatic escape from Russia, W. G. Ruggles, inventor of the Ruggles Orientator, and C. A. Coombs, one of the leading aviators of the air service during the war.

Dr. Kennelly had recently attended as translator a meeting of the International Communication Conference in Washington, and explained the latest feats being accomplished in world-wide wireless communication. He said that communication between Carnöven in Wales, in the

British Isles, and Australia, which was on the opposite side of the earth, was now being conducted in one-tenth of a second, the time it took for his voice to travel the length of the dining room in which he was speaking. He stated that there was under construction at the present time on Long Island, near New York city, the most powerful wireless station the world has yet seen, and that it would be able to communicate with any point on our planet. It was Dr. Kennelly's opinion that nothing can do more toward establishing peaceful relations between the various nations of the earth than international communication by wireless. He stated that all the important nations of the world had come to an agreement upon certain rules governing wave lengths to be used, and that this represented a tremendous stride toward world peace.

Mr. DeBell explained the "Technology plan" by which industrial companies are able to secure all existing information that is known on the various classes of technical industry. He cited a case where one of our American manufacturing companies located in Connecticut had encountered a technical difficulty in its production, and had appealed to Technology for assistance. Inside of forty-eight hours information had been located in England and obtained and supplied to the Connecticut manufacturer which had enabled him to completely overcome his difficulty.

E. R. Wilner, a representative of several American manufacturing companies in Russia, shocked his listeners with his stories of conditions existing in bolshevik Russia. He stated that over a million people had been shot within the last year in Russia after being arrested for real and fancied transgressions, and without opportunity to be heard. He said that a pound of sugar cost 10,000 rubles, a suit of second-hand clothing, 200,000 rubles, and a pair of shoes 100,000 rubles. The government, such as it was, paid salaries of the order of 150,000 rubles a month, which in American money, amounted to one-half cent. He said that the leaders of the soviet government and their loyal helpers were living in luxury whereas everybody else suffered the direst want. He was arrested several times and was finally forced to make his way through some eighty miles of swamps at night to reach the Finnish border where there was an American consul. He said there are at the present time to his certain knowledge, fourteen Americans languishing in extreme misery in Russia unless they have been killed since he left. He said there were no stores or shops operating and there was the death penalty inflicted for buying or selling anything whatsoever. Everything was to be obtained at the government supply depots where graft and corruptions reigned supreme.

W. G. Ruggles exhibited moving pictures of his Orientator which is a device intended to teach flying. He also exhibited the organs of balance of the pigeon, the monkey and of man, and explained the necessity for training these organs so that man may act intuitively when it comes to flying an aeroplane, such as is the case with the birds. The Ruggles Orientator was stated to possess the most wonderful sensations yet experienced, and that at an amusement resort, it had been the most

successful enterprise ever introduced. Pictures were shown of an Orientator in use at Atlantic City and showing the crowds waiting an opportunity to get into it and practice flying upside down, and in every other conceivable position.

Mr. Coombs, who won the Statue of Liberty air race a few years back and who has enjoyed the experience of traveling at the rate of 228 miles per hour, described the various classic aeroplane experiences of recent years, especially the altitude record made by Major Schroeder who attained an altitude of 26,000 feet and who froze his eyeballs. In this flight, Major Schroeder lost consciousness and fell five miles before regaining his senses sufficiently to make a safe landing.

The officers of the Technology Club who were elected were: President, Hiram Percy Maxim; vice-president, George L. Mylchreest; secretary-treasurer, George W. Baker. Mr. Baker has been secretary of the Technology Club ever since its formation in 1905, and is recognized among Technology men as principally responsible for the holding together of the organization.

The directors elected were: H. P. Maxim, G. L. Mylchreest, G. W. Baker, George Holman and F. Irwin Davis.

Those present were E. C. Alden, George W. Baker, George H. Barrows, C. D. Burton, H. H. Burdick, H. E. Dart, F. I. Davis, H. H. Ensworth, H. W. Griswold, M. E. Hill, George Holman, Charles P. Howard, H. S. Lord, H. H. Marshall, Robert Mather, H. Percy Maxim, Frederick C. Moore, George L. Mylchreest, Charles R. Nason, Stanley H. Osborn, H. R. Philbrick, Robert J. Ross, Ralph A. Smead, F. R. Stern, Charles P. Waterman, J. M. Livermore, K. W. Dyer of Middletown, E. P. Marsh of New Britain, Ernest W. Pelton of New Britain, Clarence Reeds, Norman Frederickson, E. O. Hiller, E. L. Warren, H. H. Busbee, Burton Geckler and J. W. Nickerson.

Dr. Kennelly said the meeting was the best he ever attended.

SUMMER OUTING

The annual outing this year was held jointly with the New Haven County Technology Club on Saturday, June 25, 1921, at Fenwick, Saybrook Point, Conn.

The Hartford Club donated a cup for a baseball contest between New Haven and Hartford to become the property of the club first winning three annual events, and the New Haven Club offered a cup for golf competition subject to like conditions.

The outing was an all-day affair and was the best in years. The ball game called for eleven o'clock was umpired by Mr. Eben Stevens, '68, the dean of all Technology men, and was won by the Hartfords. After this those who wished went in swimming after which thirty-five gathered at the good old Pease House for dinner. Then followed a get-acquainted session, tennis and a golf match which was won by the New Havens.

One of the big features of the day was the fact that sixteen members "went up in the air" as passengers in a brand new Aeromarine six-

passenger plane owned by Thomas T. Hawsworth, who graduated from Trinity College this year.

Mr. Hawsworth left the Aeromarine factory at Keyport, N. J., on Friday and was a passenger in the big plane which was operated by a former army pilot. Late Friday afternoon the machine arrived at Fenwick and during Saturday many of the local Technology men who went aloft, including Hiram Percy Maxim, several times president of the Club, warmly praised the Hawsworth plane, which gave a splendid performance. It is of the same model as the HS air cruisers which recently visited Hartford. Yesterday it made passenger flights at New London and after today will be stationed at Newport, R. I., where it will be engaged in passenger service. — *G. W. Baker, Secretary, Box 983, Hartford, Conn.*

LAWRENCE, LOWELL — THE TECHNOLOGY CLUB OF THE MERRIMACK VALLEY. — The annual meeting of the Club was held at the Merrimack Valley Country Club on the afternoon and evening of June 2, 1921. In the afternoon the golf links were open to the members and many availed themselves of the privilege. Dinner was served at seven o'clock, twenty being present. President George F. Russell presided. Mr. R. A. Hale made a plea for subscriptions to the Rollins fund for an athletic field to be dedicated to the memory of President Maclaurin.

The guests of the evening were Professor Prescott of the Department of Biology, and Ike Litchfield. The former spoke on current and coming happenings at the Institute, while Ike dwelt at some length on the social life and activities of the students.

At the business meeting previous to the dinner the following were elected officers for the coming year: President, Albert W. Thompson, Lowell; vice-president, John Ashton, Lawrence; secretary-treasurer, John A. Collins, Jr., Lawrence; member of executive committee, William Walker, Lawrence; Representative, Alumni Council, Gardner Pearson, Lowell.

The Club's twentieth anniversary occurs in October this year and it is planned to make the observance a record one. — *John A. Collins, Secretary, 67 Thorndyke Street, Lawrence, Mass.*

NEW HAVEN — NEW HAVEN COUNTY TECHNOLOGY CLUB. — The annual spring meeting of the New Haven County Technology Club was held Saturday evening, April 9, at the plant of the Southern New England Telephone Company, Court Street, New Haven. Dinner was served in the operators' restaurant with President "Herby" Wilcox, '05, as toastmaster. Arthur T. Hopkins, '97, of the United States Rubber Company, and past-president of the New Haven County Technology Club, spoke about the recent election of Ernest Fox Nichols to the presidency of the Institute. It was voted to send President-Elect Nichols fitting resolutions of welcome and support. Mr. Hopkins also outlined to the club the progress which the Alumni Council was making in acting upon the recent resolutions sent Leonard Metcalf, relating to the increase

in number of students at the Institute. Several communications have been received from the various local Alumni Associations about the country, the majority of whom are endorsing the action of the New Haven County Technology Club.

The host and principal speaker of the evening was John Putnam, '91, traffic supervisor of the Southern New England Telephone Company. In this double capacity Mr. Putnam was most efficient and most ably supported by operators of the local company who assisted with the dinner and later in showing the Club through the new plant of the company. Mr. Putnam told about the "Manufacture of Telephone Service" and showed very interesting developments occasioned by the war and its aftermath.

This proved to be one of the most interesting and enjoyable meetings in the history of the Club and was largely due to the kindness of the Southern New England Telephone Company, its staff of operators and the efforts of Mr. Putnam. The following men were present:

H. D. Hooker, R. H. Rich, M. E. Goodridge, C. R. Haynes, E. E. Allen, H. Dowst, K. Eldredge, C. Dunlap, A. T. Hopkins, R. J. King, H. R. Polleys, C. J. Randall, B. A. Robinson, E. W. Rutherford, R. R. Taylor, E. A. Teeson, E. O. Upham, W. H. Whitcomb, J. S. Gravely, A. C. Jewett, R. L. Parsell, E. W. Taft, H. M. Wilcox, P. G. Laurson, H. C. Elton, H. Gfroerer, W. E. Goodyear, John Putnam, H. G. Shaw, S. H. Wells, A. H. Bond, W. H. Leathers, W. H. Bassett, Jr., C. T. Dunn, I. M. Guilford, A. L. Davis, E. H. Davis, and F. G. Purinton.

The annual meeting of the New Haven County Technology Club was held at the New Haven Country Club, Friday, June 3, 1921. Golf and tennis were enjoyed in the afternoon, with a special dinner and entertainment to which the ladies were the invited guests. Professor Underwood gave a most interesting and entertaining illustrated talk about some of his trips through Maine and Canada. A short business meeting was held for the election of officers for the ensuing year, as follows: President, John C. Bradley, '07; vice-president, Charles R. Haynes, '05; secretary, Roy L. Parsell, '14.

This was by far the most successful meeting that the local Alumni Association has ever held and was due largely to the efforts of the committee in charge of the arrangements—H. M. Wilcox, Charles Haynes and A. T. Hopkins, and the ladies' committee, Mrs. Wilcox, Mrs. Haynes and Mrs. Parsell. Those present were as follows:

Prof. Lyman Underwood, Mr. and Mrs. W. H. Whitcomb, Mr. and Mrs. W. H. Bassett, Miss Bassett, Miss Clark, Mr. and Mrs. F. G. Purinton, Mr. and Mrs. Edward E. Allen, Mr. and Mrs. C. T. Dunn, Mr. and Mrs. C. D. Dunlap, Mr. and Mrs. Herbert C. Elton, Mr. and Mrs. L. W. Guilford, Mr. H. Gfroerer, Mr. and Mrs. A. T. Hopkins, Mr. and Mrs. C. R. Haynes, Prof. and Mrs. Philip G. Laurson, Mr. and Mrs. W. H. Leathers, Mr. Harold Manning, Mr. and Mrs. George Nichols, Mr. and Mrs. Herbert R. Polleys, Mr. and Mrs. Burr A. Robinson, Mr. and Mrs. H. G. Shaw, Mr. and Mrs. E. A. Teeson, Mr. and Mrs. H. M. Wilcox, Mr. Scott H. Wells, Mr. and Mrs. Robert King,

Mrs. Hubbard, Mr. Arthur H. Clark, Mr. and Mrs. R. L. Parsell, Mr. Whittlesey and Mr. Coolahan. — *R. L. Parsell, '14, Secretary, 235 Park Street, New Haven, Conn.*

PARIS — TECHNOLOGY CLUB OF PARIS. — The new secretary of the Technology Club of Paris is Thomas Jefferson Duffield, '14, Rockefeller Foundation, 3 Rue de Berri, Paris, France. — *Edward Stuart, Retiring Secretary.*

PHILADELPHIA — TECHNOLOGY CLUB OF PHILADELPHIA. — On June 4, 1920, our friend the Weather Man was our friend indeed and gave us a glorious day for our Field Day at Pitman, New Jersey. Tech men, their wives and Techlets to the number of sixty-eight were present, and all agreed that this was the best Field Day which had been had for many years.

The odd classes started the day by challenging the evens for a game of baseball. The outcome of this game is still much in doubt, for although the odd classes much outnumbered the evens, the evens had our former president, Percy E. Tillson in Ty Cobb's place at center field. President Miller, '01, Vice-President C. A. Anderson, '05, and D. C. Davis, '06, then endeavored to entertain the ladies and children with various field events. The ladies participated in a potato race and a cracker-eating contest, which were won by Miss Schollenberger and Miss Kellar, respectively. A peanut scramble was arranged for the Techlets, in which Techlet Davis stuffed not only his hands and pockets, but also his mouth, to capacity. After several other events of this kind the troop repaired for supper to the dining room.

In the evening the ice was thoroughly broken by Mrs. Charles Stewart, Miss Kellar and Mrs. Goddard donning overalls with the men and shooting the chutes down into the punch bowl. After our supper had been thoroughly joggled by the revolving wheel and other contraptions of the Fun Chase, Mrs. J. W. Taylor, of Allentown, played our old Tech songs and we all joined in just like old times. From 7.30 on some twenty-five couples enjoyed dancing to a five-piece orchestra, which gave us the very latest jazz music. During the Paul Jones, H. A. Grosscup, '20, and Jimmie Moore, '19, were our star performers. T. F. Wei, our Chinese friend of 1920, showed he had learned jazz dancing as well as the best of the Tech men. Before we close our history of this good Tech Day, we should not forget to mention one George F. Rowell, '92, who as usual brought the majority of the thirteen Techlets present.

We wish to remind all Tech men in this vicinity that weekly luncheons are being held at 12.15 in the Tea Room of John Wanamaker's store on the eighth floor, on every Thursday, and will be continued throughout the summer. Get around once a week and meet your old Tech friends. In the fall we will start our monthly meetings again and the secretary will be glad to receive addresses of any Tech men in the vicinity of Philadelphia who are not now receiving notices. — *Dexter A. Tulein, Secretary, 1001 Finance Building, Philadelphia, Pa.*

PORTLAND, OREGON — TECHNOLOGY ASSOCIATION OF OREGON.— A communication from Ellis F. Lawrence, '01, states that Herbert Angell, '11, care A. E. Doyle, Worcester Building, is acting secretary of the Technology Association of Oregon.

ROCHESTER — THE TECHNOLOGY CLUB OF ROCHESTER.— The Annual Convention of the American Chemical Society in Rochester, April 25 to 28, brought many Technology men.

Advantage was taken of this opportunity to get Technology men together and a dinner was held at the Rochester Club on the evening of Tuesday, April 26. There were sixty-five alumni present and interesting talks were made by Prof. H. P. Talbot and Messrs. A. D. Little, David Wesson and Robert E. Wilson. After dinner an interesting motion picture show was enjoyed by those who did not have to leave early in the evening.

We are pleased to announce two new arrivals in Rochester, Mr. H. H. Adams, '99, I, and Mr. H. W. Hatch, '18, IV.— *J. B. Wells, Secretary, 152 Alameda Street, Rochester, N. Y.*

SCHENECTADY — TECHNOLOGY CLUB OF EASTERN NEW YORK.— No meetings of the Technology Club of Eastern New York were held during May or June.

Mr. James P. Barnes, '05, VI, resigned his position as manager of the Schenectady Railways Company on January 1 to accept a similar position with the Louisville Railway Co., Louisville, Kentucky.

Mrs. Frank P. McKibben, the wife of Prof. F. P. McKibben, '94, died recently after a brief illness.

Miss Edith Clarke, '19, VI, is spending a year's vacation in Europe. She plans to teach Physics at Constantinople College during the next academic year, returning to Schenectady late in 1922.— *P. L. Alger, Secretary, 305 Rosa Road, Schenectady, N. Y.*

SEATTLE — TECHNOLOGY CLUB OF PUGET SOUND. — During the past meetings of the year, the Tech Club of Puget Sound has voiced its sentiments strongly in favor of having an Alumni Director. We favor the idea of having this position instituted on a permanent basis and recognized by the Corporation of the Institute. That the salary should be sufficient to make the position acceptable from a financial standpoint to whomever the Alumni Council decide upon as *the* man for the job. That the Alumni Director be a full-time man, devoting his whole energy to the building up of the *esprit de corps* of the Alumni of our Institute. That it should be part of his duties to keep in close contact with the various Alumni Clubs throughout the country, particularly by visiting them at intervals.

We look forward both to seeing this position firmly established and filled, for it will mean a good step in building up the backbone of the Institute, namely, The Alumni Association. — *Russell H. White, Secretary-Treasurer, 3329 East Madison Avenue, Seattle, Washington.*

ST. LOUIS. — ST. LOUIS SOCIETY OF THE M. I. T. — On April 21, the Technology Club of St. Louis gave a dinner at the University Club to Prof. Harry Tyler, of the Institute, who was in this city attending a meeting of the National Committee of Mathematical Requirements. Mr. J. L. Mauran, '89, presided. Professor Tyler spoke informally about the affairs of the Institute, its present position and its future aims. A good many questions were asked and on some points a lively discussion ensued. All present enjoyed meeting Professor Tyler and expressed the hope that the Institute men would come to St. Louis more frequently. Nineteen men attended the dinner.

The Technology Club of St. Louis had its first monthly luncheon on Wednesday, June 1, at the Planters Hotel. Twenty men were present, which was considered a good start, as our table had to be enlarged three times. A great deal of enthusiasm was shown at this meeting and success is predicted for future lunches. These luncheons will be held regularly on the first Wednesday of each month, from twelve noon to two o'clock, at the Planters Hotel, Fourth and Chestnut Streets. — *Benjamin F. Thomas, Jr., Secretary, 3869 Park Avenue, St. Louis, Mo.*

WASHINGTON — WASHINGTON SOCIETY OF THE M. I. T. — The weekly luncheons of the Society, held every Tuesday in the University Club, continue successful. The luncheon on June 21 was celebrated as the first anniversary of these luncheons. During the year the average attendance has been eleven, the greatest number at any one luncheon being twenty-two and the smallest number four. On May 7, Prof. H. W. Tyler was in town and a special luncheon was arranged in his honor. Professor Doten was also a guest on this day. The Society has appointed Mr. Amasa Holcombe as its representative on the Alumni Council. — *Homer N. Calver, Secretary, University Club, Washington, D. C.*

NEWS FROM THE CLASSES

1868

ROBERT H. RICHARDS, *Secretary*, 32 Elliot Street, Jamaica Plain, Mass.

The inaugural event was attended by Eben Stevens, Bob Richards and his wife. The Class of '69 was represented by Howard Carson.

At the Alumni dinner Mrs. Richards joined the Classes of '68 and '69 and they all sang the songs and shouted the cheers for our new president and for the other speakers all of whom gave good talks. Whatever there may have been of question as to our new man at the start, we all joined in whole-souled enthusiasm before the end of the evening.

The secretary of '68 has joined with his wife in a new undertaking. It really began two years ago but it is looming up larger and larger. It is the support and education of Mrs. Richards' nephew Robert E. Jameson, eight years old, who has asked us to call him Jim because of the number of Roberts there are around.

The immediate interest on foot at the present time is his introduction to the sea, swimming, rowing, sailing and all the marvellous things that live in the sea. For the past two summers he has been to the family camp at Randolph, N. H., in the White Mountain region. This summer he will divide his time two months at the sea and two months in the mountains.

Jim has two toy sail-boats, the "Juneo" twelve inches long and the "Sea Gull" twenty-four inches long. He is learning how to break the halyards and sheets and to mend them up and to make the boats sail after they are mended.

The scene of all these new and wonderful experiences is at the Hotel Englewood, West Yarmouth, near Hyannis, Mass. He is having the time of his life there.

The secretary has been skipping around quite a bit: at New York on business June 13; at Gardiner, Maine, June 17, for his youngest brother's golden wedding; June 19 at Dover, N. H., with E. W. Rollins at the N. H. Alumni annual gathering; June 20 back at West Yarmouth to teach Jim how to swim.

1870

CHARLES R. CROSS, *Secretary*, 100 Upland Road, Brookline, Mass.

Eliot Channing Clarke died at his residence in Boston on May 4, 1921. He was born in that city, May 6, 1845, the son of the Reverend James Freeman and Anna (Huidekoper) Clarke; graduated from Harvard College with the degree of A.B. in 1867 and entered the Institute as a special student in civil engineering in that year remaining, however, for only a short time before entering professional work. At a later date, 1875-76, he continued his studies further at the Institute.

After leaving the Institute he practiced his profession in the West, taking part in important work as a bridge engineer and in connection with the Detroit River and Chicago Water Works tunnels. In 1876 he returned to Boston, and was placed in charge of a survey for a main drainage system for Boston, which was put into effect, beginning in 1877 and completed in 1884. In the latter year he was made chief engineer of the State Commission charged to remedy the pollution of the Charles, Mystic and Blackstone River basins.

He retired from engineering work in 1886 and engaged in the management of important mills in Lowell, remaining in this business until he gave up active occupation in 1904.

Mr. Clarke was a member of many professional, scientific and business associations. He received a gold medal from the American Society of Civil Engineers for a paper on "Tests of Cement." He was treasurer of the American Academy of Arts and Sciences for eleven years and from 1884 to 1902 was a member of the Corporation of the Institute.

In 1878 he married Miss Alice deV. Sohler of Boston, who died in 1901. He is survived by two daughters and a son.

Henry Seeley Willard died suddenly on May 11 last at his home in Wellston, Ohio, according to a notice in the *Iron Age* from which the following facts are chiefly taken.

He was born at Cincinnati, August 31, 1849. During 1867-68 he attended the Massachusetts Institute of Technology. A few years later he engaged in the construction and operation of the Milton Iron Furnace at Wellston, which business was subsequently expanded to include other works of the same character. At the time of his death he was president of the Milton Iron Co. In the course of his business life he also engaged in the development of important coal properties.

A statement in the *Iron Age* to the effect that Mr. Willard was a graduate of the Massachusetts Institute of Technology is incorrect.

The American Institute of Mechanical Engineers has made Nathaniel G. Herreshoff, or Nat Herreshoff as he was better known to '70, one of its honorary members on account of his achievements in engineering. Herreshoff's work as a naval designer is too well known to need even a reference here, but as often happens in such cases, his earlier work in mechanical engineering, which was very meritorious in view of his age, has usually been overlooked.

1873

In Memoriam

SAMUEL EVERETT TINKHAM

Secretary of Class of 1873, M. I. T.

Born at Taunton, Mass., March 31, 1852

Died at Boston, April 21, 1921

"Samuel Everett Tinkham, one of the best-known civil engineers of Boston, and since 1874 connected with City Hall, died on Thursday night at his home at The Warren, at the corner of Warren and St. James Street, Roxbury. His death was due to a shock on Wednesday evening at the Boston City Club, while attending a meeting of the board of the Boston Society of Civil Engineers. He was removed at the time in an ambulance to his home and never regained consciousness.

Mr. Tinkham's general health had been good up to the time he was stricken, although he had been troubled to some extent with high blood pressure. He was at the time of his death construction engineer for the bridge and ferry division of the Public Works Department of the city.

Mr. Tinkham was born on March 31, 1852, in Taunton, and was the son of Samuel M. and Celia (Ellis) Tinkham. He was graduated from the Massachusetts Institute of Technology in 1873, in civil engineering, and received there his degree of Bachelor of Science. The next year, 1874, he entered the service of the City of Boston and had continued his work in its behalf up to this time, a period of forty-seven years.

He was a member of various organizations, including the American Society of Civil Engineers, the Boston Society of Civil Engineers, which he had served as secretary, and he belonged to Roxbury Chapter of the Society of Sons of the American Revolution. In his Masonic interests, was a member of Washington Lodge, Mr. Vernon Chapter, Roxbury Council and Warren Commandery of the Knights Templars. He had served the Masonic Association of Roxbury as president of the board of trustees. He was a member of the Boston City Club. Formerly, Mr. Tinkham was for many years chairman of the standing committee of the First Church in Roxbury, Dr. DeNormandie's parish.

On October 30, 1879, Mr. Tinkham married Miss Louisa W. Danforth of Boston, by whom he is survived, together with two sons, Charles S. Tinkham of Greenfield and Frank B. Tinkham of Jamaica Plain, as well as a daughter, Mrs. Leo Twombly of Cambridge, formerly Miss Louise Danforth Tinkham. There are also two surviving grandchildren, Ruth D. Tinkham and Elizabeth B. Tinkham, the daughters, respectively, of Charles and Frank Tinkham."—*Boston Evening Transcript*.

MEMOIR OF COLONEL HENRY LEWIS RIPLEY, M. I. T., '73

By James E. Stone, '73

Henry Lewis Ripley, son of Lewis and Sarah (Loring) Ripley, was born on September 16, 1848, at Duxbury, Mass. He attended the district schools in his native town, always standing among the first of his class. The following extract from his autobiographical notes presents a picture of his early life on his father's farm:

"I was brought up to work. Indeed, I cannot remember when I didn't have work of some kind to do, either driving cows, sawing wood, or picking up stones in the field. My father was a man who had become imbued with the idea that work was the chief end of man, and he strove to inculcate that idea into my youthful mind. I often used to try to get him to set me a task, so that when that was done I could play with the rest of the boys, but that he would not do, his answer being, 'I don't want you to work hard, but keep at work all the time doing something'. Of course, he meant well, but he didn't use the best means to accomplish his end."

Ripley wanted to be a soldier and to become a candidate for the West Point Military Academy, when there was a vacancy in his district, but was refused permission by his father. In 1867, however, the latter reluctantly allowed him to enter the second class of the Highland Military Academy at Worcester, Massachusetts. The following year, by the advice of a friend, he took a competitive examination for West Point, and of the fifteen candidates was the one chosen, but was informed by the committee that, owing to a redistricting of the State, he could not be appointed. In March, 1869, he made another attempt to enter West Point, went to Washington, saw President Grant and tried for an appointment at large, but was unsuccessful, as there were too many sons of officers who wanted positions. He then proposed to enlist in the regular army as a private, but meeting a former partner of his father, followed the advice of this gentleman, and became a student at the Massachusetts Institute of Technology, from which he was graduated in the Course of Civil Engineering in 1873. In his notes he writes, "I was always much interested in the military part of the course, and served as a private, first sergeant, first lieutenant, and adjutant of the battalion."

The following notice from the *Army and Navy Journal*, with one correction, gives a short account of his life after graduation:

"Col. Henry L. Ripley, U. S. A., a well-known Cavalry officer of the Regular Army with an excellent record of service, died at his residence, 1018 Grayson Street, San Antonio, Texas, December 13, 1920, after a long illness. He was born in Massachusetts, September 16, 1848, and since his retirement in 1912 had lived in San Antonio, taking an active interest in the affairs of both army and city. He had seen much service in the Southwest and San Antonio. Colonel Ripley was graduated from the Massachusetts Institute of Technology at Boston and became connected with a large firm with a good chance of working himself to the top of his profession. This he laid aside, however, and joined the Regular Army as a private in the battalion of Engineers, April 1, 1876, and received his first commission, that of second lieutenant, Twenty-Fourth Infantry, July 10, 1879, then serving on the Rio Grande. From there he attended the officers' school at Fort Leavenworth, graduating at the head of his class. From the school he went to the Department of Missouri where he was engineer officer and was transferred to the Third Cavalry in February, 1887, serving at Fort Clark, Fort Sam Houston and Fort Brown. He then returned to Fort Sam Houston as engineering officer of the Department of Texas and later rejoined the Third Cavalry at Fort Reno. In 1898 he went to Cuba with the Third Cavalry and fought in the battles of San Juan and Santiago. Returning from Cuba, he was promoted to the grade of major in 1903, and assigned to the Eighth Cavalry at Fort Sill. He then went with his regiment to the Philippines in 1905. There he was detailed to the General Staff of the Army, being the first officer to rise from the ranks to that staff. In 1907 he was transferred to San Antonio and became chief of staff of the Department of Texas. Later he rejoined the Eighth Cavalry and saw further service in the Philippines, becoming a lieutenant colonel. In June, 1912, he went to Fort Bliss, where he was retired for age. He married Miss Susan G. Pfeuffer, of New Braunfels and besides his widow, he is survived by two daughters, Mrs. N. E. McCluer, of Camp Knox, Ky., and Miss Elizabeth Ripley, of the University of Texas; two sisters, Mrs. Sarah L. Badger, of Springfield, Mass., and Mrs. Lucy Robbins, of Kingston, Mass., and a small granddaughter. The body was cremated at Mission Burial Park, December 15, and funeral services were



*H. L. Ripley
Col. of Cavalry.
U.S. Army.*

held on the same date with full military honors. Colonel Ripley was a member of the Masonic order, of the University Club of New York, and an honorary member of the Scientific Society of San Antonio."

1878

E. P. COLLIER, *Secretary*, 256 Summer Street, Boston, Mass.

The secretary wishes to acknowledge, with thanks, subscriptions to the Athletic Fund, amounting to fifty-seven dollars, from eleven members of the Class. This brings the Class above the required amount of fifty dollars per Class. Nevertheless, the secretary would be pleased to have a one hundred per cent subscription, as we had in the drive for the Endowment Fund.

The Class was represented at the inauguration of President Nichols by Collier Rackemann, Rollins and Schwamb, and at the dinner in the evening by Collier, Rollins, Sargent and Schwamb.

Williams, with his wife, is spending the summer in the south of France.

1881

FRANK H. BRIGGS, *Secretary*, Hotel Puritan, Boston, Mass.

The Class celebrated its *Fortieth Out* by a dinner at the Boston Athletic Association on Tuesday evening, May 7. There were present: Graduates: Abbott, Allen, Came, Chase, Collins, Cutler, Duff, Goddard, Lewis, Lund, Parker and Briggs. Non-Graduates: Brown, Hill, Langdon, Munyan, Revere and Walsh. A very pleasant evening was passed with frequent allusions to the past and recollections of "*When we were at the Institute.*" Some of the old reliables could not be present, owing to being far away, such as: Mower in London, Warren in California, Winslow abroad, Barnes in South America, Dort in Montreal, French in Cleveland, Kendall in Seattle, Paine in Europe, Maxcy in Philadelphia, Rosenheim in California and Zimmerman in Chicago. All regretted to hear that Harry Stearns has been practically on the invalid list for almost two years. At the inauguration dinner the following night Mrs. Ordway was present, as well as Duff, Briggs, Came, Walsh, Munyan and Revere.

1882

WALTER B. SNOW, *Secretary*, 60 High Street, Boston, Mass.

The secretary recently had a very pleasant call from Charles J. A. Wardwell, who entered the Institute with the Class of '82 but who has seen practically none of the members since he left in 1879. His address is 137 Steuben Street, East Orange, N. J., and he is with the designing department of the Western Electric Company.

Some time since Munroe addressed the students of the College of William and Mary regarding William Barton Rogers: who, after studying and teaching there, went to Boston and founded the Massachusetts Institute of Technology. William and Mary has included in her campaign for a \$1,440,000 Endowment Fund the amount of \$200,000 with which to build the William Barton Rogers Memorial Science Hall.

1883

HARVEY S. CHASE, *Secretary*, 84 State Street, Boston, Mass.

A card has been received announcing the death of George J. Foran on the twelfth of May, last.

In writing of his death the *New York Transcript* said:

LEADER IN ENGINEERING WORLD

George J. Foran of New York Who Had Occupied a Prominent Place in His Work
Was a Native of Boston

George J. Foran, engineer, art collector and member of the Committees on Condensing Apparatus of the United States Shipping Board and the War Industries Board during the war, has died at his home, 471 Central Park West, New York City, after an illness of several weeks. Mr. Foran, who was manager of the condenser department at the Worthington Pump and Machinery Corporation and the associated companies of the International Steam Pump Company from 1901 until his death, was born in Boston on January 22, 1862. After he was graduated from the Massachusetts Institute of Technology in 1883 he entered the works of the Deane Steam Pump Company, where he remained until 1886, when he associated himself with the George G. Blake Manufacturing Company, remaining for fifteen years.

During the war, in addition to his work for the War Industries Board and the United States Shipping Board, Mr. Foran served as chairman of the American Engineering Service of the Engineering Council, which handled all questions of personnel between the various departments of the United States Government and the four national engineering societies. He was a leader in the development of high vacuum apparatus, and was responsible for the design of a large number of important installations of this type in the United States. He did much original investigation work in several fields of mechanical engineering.

Mr. Foran, who had been a member of the American Society of Mechanical Engineers since 1887, was active in committee work of the society, especially as chairman of the condenser and heater section of the power test code committee and as a member of the publication committee. He was also a member of the Verein Deutscher Ingenieure, the American Association for the Advancement of Science, the Engineers' Clubs of New York and that in Boston.

His forty years of active and valued service with the Worthington Pump and Machinery Corporation won for him the admiration and esteem of his associates.

David Wesson, a classmate, when sending in the above said: "I did not see a great deal of Mr. Foran, although we were located near each other in the city. When we did meet, however, it was always a matter of joy on both sides, and none of his classmates will regret his passing more than the writer."

On May 8, Mr. Foran was to have attended the dedication of a memorial window at Theodore Parker (First Parish) Church, West Roxbury. This memorial window was presented by Mrs. Foran (Emma M. Snelling) in memory of her father and mother, Washington and Harriet Fowle Snelling. A beautiful brochure containing a picture of the window, pictures of Mr. and Mrs. Snelling as they were in 1854 and 1916 and their genealogy, a tribute to their memory, was issued by Mr. Foran as a slight token of the love, respect and admiration with which he regarded Mr. and Mrs. Snelling during the time it was his privilege to enjoy their intimate acquaintance and friendship."

1884

H. W. TYLER, *Secretary*, M. I. T., Cambridge, Mass.

Members of the Class will be grieved to hear of the deaths of Isaac Horton of Canton and Herbert F. Otis of Brookline. Mr. Horton had been long in the employ of Stone & Webster and had an important share in the work for the Government at Hog Island. Mr. Otis had been for the greater part of his life the victim of ill-health and had never engaged in any active profession. He was greatly interested in various scientific subjects, notably biology, mineralogy and zoology. He had spent many years collecting material, of geological interest and built a summer museum at his summer home in Nahant, where

he spent much time in microscopic investigation. He was a member of the Somerset Club of Boston and a Fellow of the Royal Society of Arts, London. His widow, and son — now at Harvard College — survive him.

AN APPRECIATION OF I. CHESTER HORTON

By A. H. Gill, '84

I. Chester Horton was born in Canton, Massachusetts, December 19, 1863, and died there February 11, 1921. Chester and I met on the high school steps in September, 1876, and have been more or less closely associated since that time. The writer wishes here to record his deep sense of personal loss as well as that of the class, and of the community in which Mr. Horton took so large a part. No one will be more missed. No boy knew better where the uncommon flowers and rare birds were to be found, their peculiarities and habits for he was a good botanist and a keen observer of nature.

He graduated from the Canton High School in 1880; was with us in mechanical engineering for two years, excelling in drafting which later became his specialty. He served as a draftsman for several railroads in the West, being chief draftsman for the Lake Shore and Michigan Southern at Cleveland for ten years. The attraction for his old home town growing stronger, in 1904 he came to Hodges & Harrington of Boston, engineers and railroad builders, who in 1905 were merged with Stone & Webster. He served with the latter firm in the drafting, photographic and construction divisions; he conducted field surveys in New York, New Hampshire, Massachusetts and Rhode Island; he also served as appraiser in 1910 for the Philadelphia and Western Railway and in 1919 for the Brooklyn Rapid Transit Company. In September, 1917, he made the preliminary surveys of Hog Island, and later served there as locating engineer of the railroad tracks in that immense shipyard.

His associates will always cherish his spirit of good comradeship, optimism, fair dealing and love of his fellow-man. He was highly conscientious, no task was too large or too small for his consideration. An associate writes, he was "a man of all-round engineering ability, a speedy and perfect draftsman, surpassing his own men, and in computations he was unexcelled." His hobby was photography, in which he was an expert; he had a noteworthy collection of excellent photographs of unusual birds, nests, animals and reptiles, which some of us have seen as lantern slides.

He was selectman and assessor of Canton for three years, school committee man for six years, superintendent of the Unitarian Sunday School ten years, and trustee of the Savings Bank fourteen years.

He was a member of Blue Hill Lodge A. F. and A. M., a past president of the Canton Historical Society and of the High School Association. Nor does this enumerate all of his interests, for both he and his wife were most welcome and pleasing additions to the Church choir and activities connected therewith.

He married in 1885 Hattie C. Barbour of New York who, with a daughter, Mildred, survives him. A son, Howard, died at Camp Devens of pneumonia in 1917. It is thought that this loss, coupled with that of a dear cousin, and the trying times at Hog Island, may have hastened his untimely death. This was due to cancer of the oesophagus, an operation affording but temporary relief.

1885

I. W. LITCHFIELD, *Secretary*, 28 Austin Street, Newtonville, Mass.

Those were three beautiful days at Wianno, and they went like a dream. The Class had the Rich cottage directly opposite the clubhouse and although other engagements reduced the number attending, there were enough to make a happy party. The golf links have been much improved since last year. The Class of '96, seventy men strong, which was celebrating its twenty-fifth at the Club, challenged us to a golf match. Dick Pierce and John Lyman lost their match through carelessness by a paltry two, but Frank Page and Jack Harding, Springfield *pros*, came romping in with victorious eagles. The only business transacted was to adopt the rose as the Class flower. Rufus, the pup, claimed some attention and Artie showed us a new trick performed with "barley duc." Those attending were Frazer, Harding, Litchfield, Lyman, Page, Pierce, Plaisted, Ramson,

Spalding and Schubmehl. Henry Sweet couldn't come, but he sent a substitute and we were all glad to see "OLD TOM," of fragrant memory, once more. As George Steele couldn't come, the ten-mile marathon between him and Jack Harding had to be postponed.

At the Dartmouth commencement Harry Talbot was honored with the degree of Sc. D.

Arthur Little was recently elected president of the Alumni Association, M. I. T. '85 is probably the only Class that has been honored by two alumni presidents — Little and Ev. Morss.

Harry Talbot has been appointed Dean of Technology succeeding Dean Burton who has resigned from the Institute Staff after thirty-nine years of service.

The Class dinner was held at the Boston Athletic Club on the second Saturday after Easter. There were twenty present. The most interesting feature of the meeting was a description of the agricultural community plans of a company organized by Hugh MacRae. We are trying to persuade Hugh to send us a synopsis of his talk for the REVIEW. Bob Richardson was elected president of '85 for 1921-1922.

A note just received from Alex. McKim states that the Engineering Department of New York Conservation Commission is to be legislated out of being in July, but seven out of twenty incumbents will be retained on the staff of the State Engineer, of which Alex. is one. He retains his title of State Inspector of Docks and Dams.

1886

ARTHUR G. ROBBINS, *Secretary*, M. I. T., Cambridge, Mass.

Twenty members of the Class of '86 assembled at the University Club on the evening of June 19, to renew their youth on the thirty-fifth anniversary of graduation.

Tuned to the thought waves emanating from Clifford, who occupied the seat of Macgregor, those present heard from Chadbourne of some of his experiences in relief work at the German Army Headquarters at Mons during the early months of the war. Peirce, in his inimitable way, drew a word and act composite of political Washington, of which he has seen much since March 4. Miller gave an extended account of some of the doings at Massachusetts Institute of Technology during the war; and also a resume of his stewardship as a member of the Administrative Committee.

The meeting adjourned at a late hour to reassemble the next morning at Copley Square, where automobiles were taken for a day's outing along the South Shore to Plymouth.

Those present were Aborn, Anthony, Batcheller, Blunt, Chadbourne, Chase, Clifford, Cutter, Foss, H. A. Howard, Ingalls, Kimball, Locke, H. P. Merriam, Miller, Peirce, Proctor, Robbins, Van Alstyne, Winsor.

As this goes to press between thirty and forty members of the Class of 1886, S. M. A. are celebrating with Pa Lambert, Fearing and Smith as guests of honor. The reunion includes a banquet at Young's, followed by a two days' excursion along the North and South shores from the rocks of Cape Ann to the sands of Duxbury. Here the "boys" are renewing their youthful friendships and seeking relief from 95 degrees in the shade at Boston with every vestige of an east wind securely bound deep down in its cave.

1887

EDWARD G. THOMAS, *Secretary*, Toledo Scale Co., Toledo, Ohio.

On April 22, 1921, the Class of '87 held its annual dinner at Young's Hotel. The plans for the reunion on the thirty-fifth anniversary of the graduation were discussed with much interest. Many letters have been received from members of the Class, all showing great interest in next year's reunion. A committee made up of Bryant, Cameron, Crosby, Sears and Taintor were elected to make arrangements for the reunion.

Members of the Class are requested to send to this committee any suggestions they have to make as to the time and place for the reunion and also to do everything in their power to insure a large attendance at the reunion.

Fish is in Paris. — Granger Whitney is on his farm at Williamsburg, Michigan. — Sylvester is at Rockwood, Tenn. — Tappan is at Spruce Pine, N. C.

Charles Wilson Taintor, 2d, and Miss Elizabeth Wood Taber were married in April. They will live in Cambridge.

1888

WILLIAM G. SNOW, *Secretary*, 112 Water Street, Boston, Mass.

The annual reunion and Class dinner took place at the Commonwealth Country Club on April 26. A number of the golfing members arrived early enough to have a round of the links. The dinner, which was engineered by Horn, was enjoyed by Sawyer, Pierce, Child, Baldwin, Blanchard, B. R. T. Collins, Thompson, Horn, Buttolph, Wood, Shaw, Stetson, Cole, Runkle, Webster, Frizzell, Bridges and Snow.

At the business meeting A. H. Sawyer was re-elected president of the Class. This was Frizzell's first appearance at a Class gathering for many years. He has been teaching recently at the Huntington School, Boston. Next year he is to teach at the Franklin Union, Boston. — After a delightful evening the meeting adjourned at ten-thirty o'clock.

Arthur T. Bradlee has been made president of the William Whitman Company, Inc., 78 Chauncy Street, Boston, with which he has been connected for many years.

1889

WALTER H. KILHAM, *Secretary*, 9 Park Street, Boston, Mass.

The annual dinner was held at the St. Botolph Club, April 14, 1921 and those present were: Thurber, Kunhardt, Conant, Hart, E. V. French, Russell, Basford, William L. Smith, Pierce, Hollis French, Kilham, Williston, Spaulding, Gilbert, Ashton, Wales, Laws, Orrok, Pickering, Lewis, Hunt and Underhill.

It was voted to invite President Nichols to become an honorary member of '89.

Any meeting of '89 is always equivalent to a liberal education to those who are fortunate enough to be present and this meeting was no exception. The discussion after the dinner was brilliant and informing and ranged from chemicals and paper manufacturing through town management, propagation of bananas and elimination of their diseases, the condition of Mexico, and wound up with a really brilliant talk of the possibilities of steam locomotives by Basford who explained how easy it would be to obtain 79 per cent more draw-bar efficiency from the same amount of coal. Several members acquired considerable new information on Mikado engines, Boosters and other appliances. Owing to the necessity of the president attending a prize fight, the meeting broke up at quarter past ten. Many of the members were loath to depart so early and stayed on for quiet conversation.

George Campbell Harding, fifty-three years old, died suddenly on April 23 last at his home in Pittsfield, Mass., of heart failure. He had been out of his office since January with acute Bright's disease. Harding was born in Pittsfield, May 18, 1867, and had always lived there. He would have been fifty-four on May 18. He attended the Pittsfield public schools, Andover Academy and graduated from Massachusetts Institute of Technology in 1889. He went to work in Boston architects' offices before returning to his home town where in 1894 he entered partnership with Charles T. Rathbun. Mr. Rathbun retired in 1899 and Harding continued the business alone until 1901, when he established the firm of Harding & Seaver. Harding was the architect or assisted in drawing the plans for many big buildings in New England, while alone he designed the residence of Fred G. Crane of Dalton, the Curtis Hotel addition in Lenox and several houses at Williamstown. After entering partnership with Mr. Seaver, the firm designed the Berkshire Museum of Art and Natural History in Pittsfield, the Town Hall at Lenox, Boys' Club and Young Men's Christian Association in Pittsfield; the residence of former Senator W. M. Crane, at Dalton, many villas in Lenox, the science building and chapel at Colgate University, the academy building at New London, N. H., and buildings at Rochester, N. Y., Mt. Kisco, N. Y., and Bennington, Vt. He furnished the designs for remodeling several of the Williams College buildings at Williamstown, including West College and Griffin Hall.

He recently designed plans for the restoration of South Congregational Church, Pittsfield, to its former Colonial lines. He was an expert in Colonial styles of architecture. The restoration of President Harry A. Garfield's house at Williamstown and the South Congregational Church, Pittsfield, are fine examples of his Colonial work. He was a member and for many years deacon of the First Congregational Church of his native town. He was never married. He leaves two sisters.

Conant has returned from Savannah and has taken over the office of Town Manager of Mansfield, Mass., and this is his new address. Conant has been a leading spirit in several societies composed of legal officials and has sometimes acted as advisory engineer for the State Highway Commission.

1890

GEORGE L. GILMORE, *Secretary*, Lexington, Mass.

Henry Plympton Spaulding had an exhibition of his paintings on "Roads and Rivers," the latter part of March, at the Grace Horne Gallery, which was most interesting, and shows the skill with which our classmate wields the brush. — Charles H. Alden, architect, announces the removal of his offices to 358 Empire Building, Seattle. — A card was received from de Lancey in March from San Francisco where he was on work in connection with the Shipping Board. — George E. Hale and Mrs. Hale were in Boston in the early part of May, and your secretary had the pleasure of their company, together with Harry Goodwin and Mrs. Goodwin, at dinner in Lexington. — Charles Hayden has recently been elected a director of the American Ship and Commerce Corporation, and has also been elected a member of the executive committee of the New York Trust Company. — Billy Poland is still with the Commission for Relief in Belgium, with headquarters at 42 Broadway, New York City.

Your secretary, with Mrs. Gilmore, sailed on June 1 on the "Adriatic" for the other side, where Gilmore is a delegate to the World Cotton Conference, and chairman of the American Committee from the Finishers. The Conference is to be held at Liverpool and Manchester from June 13 to 23. After that, they are planning to spend a few weeks touring around England, and will then go on the Continent, probably visiting Belgium, France and Holland. He will also have an opportunity to see what restoration has taken place since he was over there two years ago.

Miss Catherine Ames Royce, daughter of Mr. and Mrs. Frederick P. Royce, of Pine Knoll, Dedham, Mass., was united in marriage June 11, with Robert Cushing Hamlin, Harvard '15.

ADDRESS CHANGES

Bertram A. Lenfest, 130 Sterling Place, Brooklyn, N. Y.; Elwood A. Emery, Hyde Park Hotel, Chicago, Ill.; J. Edgar Borden, 245 Lincoln Avenue, Portsmouth, N. H.

1891

HENRY A. FISKE, *Secretary*, 275 West Exchange Street, Providence, R. I.

The Class of '91 held its thirtieth reunion June 10 to 12 at Wianno, Mass. The privileges of the Wianno Club were secured and the food and service left nothing to be desired.

There were forty-seven members present:

Aiken, Alley, Bassett, Bird, Blanchard, Bowen, Boyd, H. G. Bradlee, Brown, W. P. Bryant, J. Campbell, Capen, Clark, F. A. Cole, Dart, Douglass, Earl, Ensworth, Fiske, Fuller, Garrison, Gottlieb, Hatch, F. C. Holmes, G. A. Holmes, Howard, F. Clouston Moore, F. Campbell Moore, Palmer, A. R. Pierce, A. W. Pierce, J. W. Pierce, Punchard Read, Ryder, Spooner, Swan, Tappan, J. G. Thompson, Tyler, Vaillant, Walker, Warren, G. H. Wetherbee, Wilder, Whitney and Young.

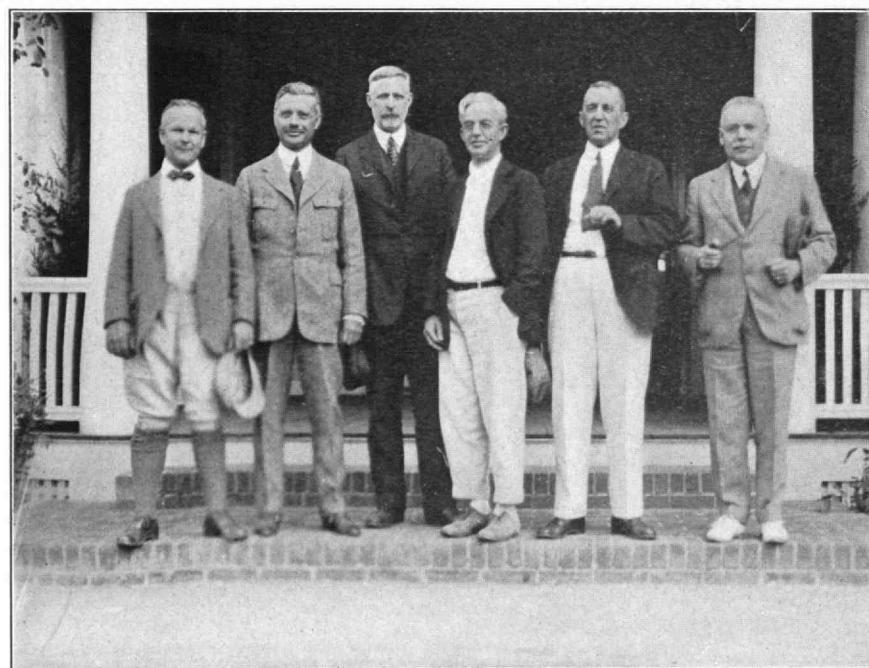
Most of the men met at the University Club, Boston, on Friday morning, leaving there about ten by auto, and arriving at Wianno about one. Some motored from Providence, Hartford, New Bedford, and Plymouth. The day was perfect and the weather



THE BUNCH, CLASS OF '91



CLAM BAKE ON THE BEACH



THE GRANDFATHERS

Campbell, Bassett, Howard, Pierce, Read, Young

continued good during the outing. The afternoon was spent in swapping experiences and getting ready for the events to come. F. E. Haggvist, a recent graduate of Tech was brought along as official photographer and he was right on the job.

After dinner we congregated in the ballroom and held a song-fest, practicing some Class songs written for the occasion by the secretary. Wilder and G. A. Holmes officiated at the piano. Saturday morning the sports started in good earnest. The tennis tournament consisted of eight pairs and the prizes were won by G. A. Holmes and H. G. Bradley. George Spooner was too active for his 300 (approximately) pounds and strained a ligament, but Dr. Bill Bryant fixed him up in short order. The golf tournament was for 36 holes with prizes for best gross and best net. The former was won by H. A. Fiske and the latter by F. C. Blanchard.

Saturday noon was the great event, a real clambake on the beach, seaweed, rocks "and everything." It didn't look so very big, but after every one had all they could contain, there seemed to be as much more still waiting to be eaten. The record for one man was two plates of chowder, three dishes of clams and four lobsters, but hardly fair to mention his name. That afternoon, more tennis, golf, autoing, scrub ball, and swimming. After dinner Charlie Garrison gave some moving pictures with a very simple and compact machine which he brought along. The secretary gave some statistics compiled from the questionnaires, a few of which are as follows:

1. Positions held:	
(a) Executive or managerial.	56
(b) Partnership or self	38
(c) Miscellaneous.	49
2. Class of work:	
(a) Engineering, architecture, etc.	58
(b) Manufacturing.	41
(c) General business	23
(d) Teaching	11
(e) Miscellaneous (law, ministry , physician)	7
(f) Retired.	15
3. Marriage:	
(a) Number of men married.	136
(b) Widowers	4
(c) Number of men unmarried	14
(d) Number of women married	2
(e) Number of women unmarried	5
4. Children:	
(a) Boys.	132
(b) Girls.	129
(c) Two men have five children, and one six.	
(d) Number of children married.	30
5. Grandchildren:	
(a) Boys	18
(b) Girls.	9
6. Hobbies:	
(a) Golf.	16
(b) Gardening or farming.	11
(c) Motoring	8
(d) Various outdoor sports or pursuits	34
(e) Music	4
(f) Photography	3
(g) Reading.	3
(h) Various indoor sports or pursuits	27

7. Personal statistics:

Earl was the first married after graduation, December 29, 1891.

Bird was the last, September 19, 1920, but Gottlieb was the last bachelor to succumb on June 19, 1920.

Dill has a daughter twenty-eight.

Boyd has three married children.

Howard has twin boys, twenty-six years old, and both married in 1918, and each has a boy two years old.

Rooney has the oldest grandson and Read the oldest granddaughter.

Sunday morning saw the finish of the golf and tennis tournaments and the afternoon was spent on the ball field. The agility displayed by these ancients was certainly remarkable. Blanchard, the irrepressible; Bird with his latest pitching delivery; Campbell Moore with his "foul" drives to the gallery; Uncle Horace Ensworth and his wonderful fielding; will long be remembered. Sunday noon, after lunch, was the birthday party in honor of Horace Ensworth, with Arthur Alley in a minor role, as Arthur's birthday was a day or two later. It was a real surprise party, with a procession of waitresses, the first bearing an enormous birthday cake with fifty-one candles. The others brought bouquets and toys for presents. It should be added that Barney Capen was guilty of all this fun, for he has a birthday book and knows when every man in the Class (almost) was born and sends us all birthday cards each year. A '91 reunion would be sadly lacking without Barney.

Sunday afternoon the leave taking began, but about half stayed over until Monday morning. The success of the outing was largely due to our president, Harry Bradlee, who gave a lot of time to organization and details, to Charlie Garrison who arranged for the Club and clam-bake, and to Alley, Bowen and others as chairmen of various committees.

(In the Good Old Summer Time)

Here's to good old '91,

The Class that's full of fun,

We play from morn till night, and then

We've only just begun:

And now were off, all happy and gay

And when all's said and done,

As everyone knows,

Still right on our toes,

Will be good old '91.

The United States Chamber of Commerce held its ninth annual meeting at Atlantic City in April. Morris Knowles represented the Pittsburgh Chamber of Commerce and was made a member of the committee of resolutions. Harry Young is a National Counsellor representing the National School Supply Association. — Jerry Campbell is now connected with Charles H. Tenney & Company of Boston, owners and managers of public service properties. — George Hooper is travelling with his family in California for a rest and recreation. — Arthur Shattuck has retired and is living at Beverly Hills, California. — James Swan is now president of the Groton Iron Works, ship builders, Groton, Conn. — Ernest Tappan is with George G. Graff Company, Somerville, Mass., manufacturers of office devices.

AN APPRECIATION OF LESTER G. FRENCH, '91

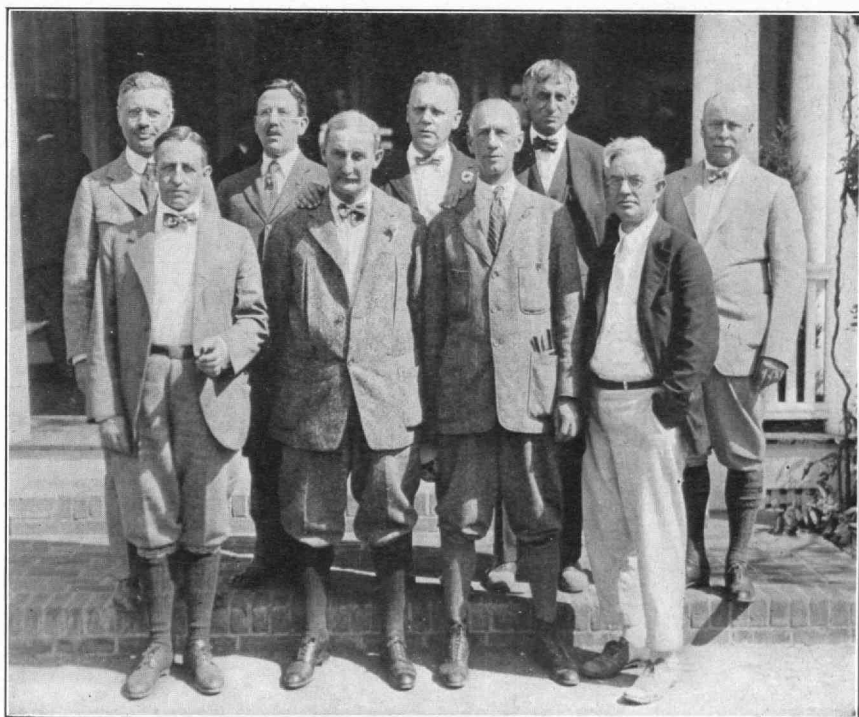
By his classmate Charles W. Aiken

Lester Gray French of White Plains, N. Y., for thirteen years editor and assistant secretary of the American Society of Mechanical Engineers and manager of the journal, *Mechanical Engineering*, died in the French Hospital, New York, on April 18 from septic poisoning following an operation on April 8. Lester French had been in poor health for several years but had continued at his work although, at times, with great difficulty. The operation was undertaken with the hope that he would be restored to health and his recovery seemed at first to be assured, but unfavorable symptoms developed which, owing to his lowered vitality after his long illness, resulted fatally.

Lester French was born in Keene, N. H., April 26, 1869, the son of Olin L. and Emma (Freeman) French. His parents moved to Brattleboro, Vt., in 1873. He was educated in the public schools in Brattleboro, was graduated from the high school in 1887, entering the M. I. T. in the fall of that year, and was graduated in 1891.

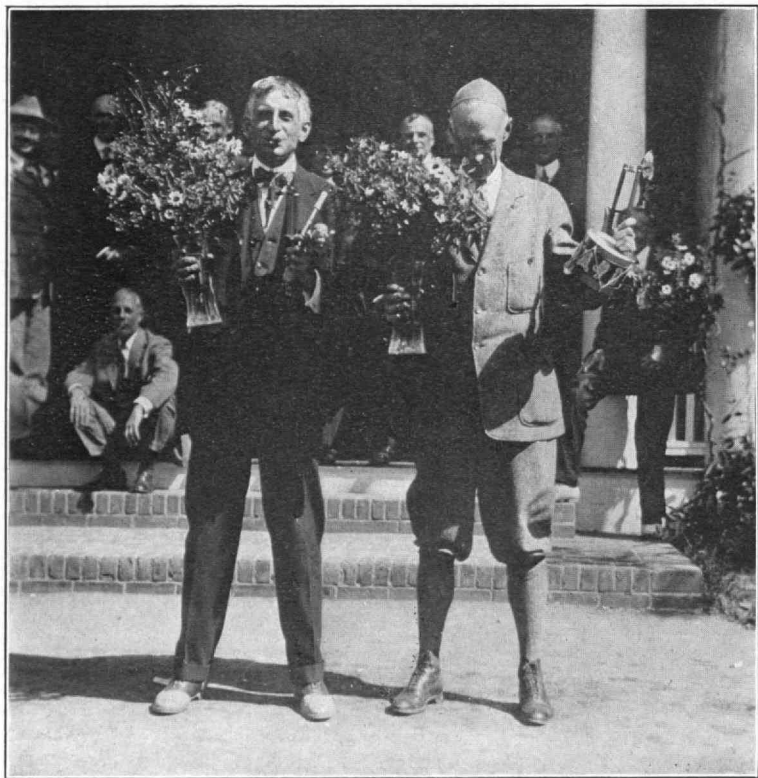
While at the Institute, Mr. French took part in various student activities and was one of the founders of the Phi Beta Epsilon Fraternity.

After a year with the Cranston Printing Press Company as draftsman, he became



THE GOLFERS

Bassett, Clark, Fiske, Ensworth, Palmer, Bradlee, Blanchard, Alley, Pierce



THE BIRTHDAY PARTY
Ensworth, Alley

connected with the International Correspondence Schools at Scranton, Pa., as instructor in Mechanical Engineering. In 1895 he went to Providence, R. I., as assistant to the superintendent of the Builders' Iron Foundry. In 1897 he became editor in chief of *Machinery*, continued this position until 1906, when he resigned to take up the publication of technical books, among them being one of the earliest treatises on the steam turbine, of which he was the author. In 1908 he was made editor of the publications of the American Society of Mechanical Engineers which organization he faithfully and ably served to date of his death. With a rare combination of enterprise, vision and dependability Mr. French developed the publications of the American Society of Mechanical Engineers to a very high standard.

Funeral services were held in his home at White Plains on Wednesday afternoon, April 20, which were largely attended by Mr. French's personal friends in White Plains, by his associates in the office of the American Society of Mechanical Engineers, by other friends in the profession, and by representatives of his college class and his fraternity. The body was taken to his old home at Brattleboro, Vt., on Friday, April 22, accompanied by his family and representatives from the American Society of Mechanical Engineers, his class and his college fraternity. The funeral services at Brattleboro were conducted at the home of Mr. French's father, interment being made in the family lot in Prospect Hill Cemetery.

Mr. French is survived by his wife, Mary (Deane) French, his daughter, Sylvia French, and his son, Freeman Lee French. His father, who was in poor health at the time of the funeral, died about a month later.

Capable and efficient, a quick and a hard worker in spite of ill health for years, he accomplished much in his profession. At the same time he was always interested in those things that make for the general good of the community.

A man of high ideals, fond of music, art and literature, gifted with a keen sense of humor, always optimistic, he was the most interesting of companions and the truest and most loyal of friends.

A more thoughtful and unselfish man in his home relations could not be found. It was his delight to anticipate every desire of those dear to him and to make the home circle one of constant happiness.

Proud we are of his life and his courageous end. Happy, too, in the memory of all the joy he has brought into our lives and of the example he has given us of a life well lived.

1892

JOHN W. HALL, *Secretary*, 8 Hillside Street, Roxbury, Mass.

Mr. and Mrs. W. Spencer Hutchinson announce the engagement of their daughter, Ruth, to Mr. Robert N. Addoms of Cranford, N. J.

No meeting of the Class was held at commencement time, but early in the fall a meeting will be called for the purpose of making plans for the thirtieth reunion in June, 1922. It will be impossible, of course, for many of the members of the Class to attend this meeting, but because you may happen to be in this "impossible" category, don't take a back seat in the "let George do it" row, but turn on the imagination switch in your brain and let us have the result of its working. Send it to the secretary who will get it before the meeting where it will receive as careful consideration as if you presented it in person. An announcement of the date and place of this meeting will be sent to each member. Plan to be present.

1895

WALLACE C. BRACKETT, *Secretary*, 105 Washington Street, Boston, Mass.

The Class reunion was held at Riversea Club, Fenwick Point, Saybrook, Conn., on June 3, 4 and 5 with an attendance of only seven men, Ed Alden, Sam Hunt, Fred Hannah, Frank Schmitz, Walter Williams, and the Class secretary. We all had such a good time that we have agreed to have another reunion next year at the same place, and we are sure that we will have at least seven men.

The small number who appeared at the outing was rather disappointing. About seventy-five men answered the first postal sent out by the secretary, of which twenty said that the chances were very good that they would attend the reunion, twenty more, the chances were fair, and the remainder, although they thought they could not come, wanted to have additional literature which might be sent out forwarded to them. On the basis of these returns the secretary estimated that we would have from fifteen to twenty men, but when the returns for the second postal came in, almost every man who said he would come, decided he wouldn't. The secretary has not been able to figure out the reason for this "slump," but it certainly was very discouraging.

The men who came to the reunion, however, enjoyed a most satisfactory time. The only thing which occurred to put a damper on the enjoyment was a telegram received from Weston in Cuba, which read as follows: "Greetings! Because of low sugar market, impossible to be present, but giving party here to '95 — cocktails, champagne, Benedictine and poker and wish you the same." As above stated, we are going to have another reunion next year, and we are going to prepare for more members, and we are going to make sure in some way to see that they get there.

A letter received from A. E. Zapf telling us of his inability to attend the reunion contained a postscript in which he particularly asked that his regards be given to Bourne, Canfield, Parker and Swope, and we take this occasion to see that they are forwarded.

Frank Miller is still assisting the Senate Committee on reconstruction, especially in reference to housing. His ideas are contained in a note which we have clipped from a recent copy of the *Boston Transcript*: "Home-builders were advised to await improved transportation, labor and financial situations in an address by Franklin T. Miller, assistant to the Senate Committee on Reconstruction, before the housing conference called by the Chamber of the United States. 'Wait until transportation is ample; until you can get a full day's work for a full day's pay, and until your banker will loan you at least sixty per cent of the value of the building at six per cent, without bonus,' he advised."

Gerard Matthes has been given some special work to do at Chattanooga for the War Department. A note from a recent issue of one of the engineering papers will, I think, be interesting to the Class: "Gerard H. Matthes, '95, engineer for the Miami Conservancy Company of Ohio, is now stationed at Chattanooga, Tennessee, as assistant engineer for the War Department in charge of an investigation of the water resources of the Tennessee River basin. The work of Mr. Matthes will cover navigation, floods, water power, mineral resources and other features that have a great bearing on the development of the Tennessee River and the surrounding country. It will take several years to complete the investigation, which is the most comprehensive study of the kind ever undertaken on a large river in the United States."

Walter Williams, chemical engineer of the Mt. Hope Finishing Co. at North Dighton, recently had one full page given to him in the *American Dyestuff Reporter*. In order that you may know what Walter is doing these days, we quote the following: "... Mr Williams has devoted lifelong study to the chemical engineering problems associated with bleaching, mercerizing, dyeing, printing and finishing of cotton and cotton-silk fabrics, and has given especial attention to the testing and evaluation of the dyes and chemicals required for these fibres. He has been a prominent contributor to the technical press on various textile subjects."

We have received the following changes of address:

Charles M. Adams, care of United States Rubber Co., 60 High Street, Boston, Mass.; Bertrand J. Clergue, 602 Bank of Nova Scotia Building, 263 St. James Street, Montreal, Canada; Ira A. Nay, Box 166, Lewiston, Maine; William P. Sargent, 189 Bowen Street, Providence, R. I.; George A. Nichols, Drawer 13, Yale Station, New Haven, Conn.; Fred W. Draper, 716 Kohl Building, San Francisco, Calif.; Alfred L. Simmons, 72 Edison Park, Quincy, Mass.; R. W. Swift, care of Wing & Evans, 22 Williams Street, New York, N. Y.; William Winkley, 55 Kilby Street, Boston, Mass.

We note that Drisko, '95, was the man who had charge of the special illumination of the buildings at the recent inauguration. We presume that they could not have had the buildings properly illuminated if they had not had a '95 man to do it.

The secretary has just received a letter from Tom Booth, who has recently returned from a business trip to the Pacific Coast. We attach herewith a copy of his letter, which we are sure will be of interest to every '95 man.

"Dear Brackett: It occurs to me that you may be interested in hearing about some

of the '95 men with whom I was fortunate enough to come in contact on the occasion of a business trip to the Pacific Coast during April and May.

In San Francisco I called on W. D. Bliss who graduated with '95 and is in partnership with Faville, also a '95 man, at least by association. Bliss & Faville is the leading architectural firm of San Francisco, and the results of their work are seen at every turn and particularly among the prominent commercial and public buildings of San Francisco as rebuilt since the earthquake. I was received with the greatest cordiality by both of these old Tech men and was shown well-appreciated courtesy and attention by Bliss. Through W. D. Bliss I also met our old classmate Duane Bliss, who had only just returned to San Francisco after having disposed of his lumber interests in Plumas County, where he has been busily and profitably engaged for a number of years.

Dorville Libby is engineer with the Pelton Water Wheel Company and now revels in 25,000 horse power turbines, fabulous heads of water and other mysterious combinations of applied mechanics and hydraulics. I was fortunate enough to find him in at his plant, and his old friends will be glad to know that he still dispenses philosophy with his old-time fluency. He sends his regards to the '95 men in the East, and wants them to know that he is holding up his end on the Pacific Coast.

Course VI men will be interested to hear from our former classmate Augustus J. Bowie. Bowie, who was at one time engaged in irrigation work for the Government, is now in the business of building electric switches and high-tension insulators. He has a prosperous manufacturing plant a few blocks away from Libby, with an office downtown, and looks very much the same as he did in 1895.

I tried to find Harry Sheafe, calling at his office once and telephoning several times, but was unable to strike a time when he was in. Sheafe has an office in San Francisco, but appears to be occupied a large part of his time in or about Saratoga, forty or fifty miles away, where he resides. I also tried to locate F. W. Draper, who I learned had moved from Nevada to the vicinity of San Francisco, but was unable to get in touch with him. Draper is living in Piedmont, across the Bay, and is engaged, I believe, on some special mining or metallurgical work. I also called at the office of J. G. Wolfe, an old '95 man, but happened to strike a time when he was out of town.

At Los Angeles I stopped at the Hotel Stowell. All who have examined the advertisements in our '95 Class Book (if they are not otherwise informed) are aware that this is managed by A. W. Stowell of '95. There I not only had the great consideration and attention, which I understand Stowell is in the habit of conferring on all his guests, but was treated in the most royal manner by Stowell in person. Stowell tells me that after leaving Tech he was connected with various manufacturing enterprises in the East, but in 1913 moved to Los Angeles. Shortly after that he became interested in what is now the Hotel Stowell. In 1917 he took over its management and has since built it up into one of the most comfortable hostleries in the city. Certainly every '95 man will feel at home in his house. On the first Sunday of my stay Stowell appeared at the Hotel with his auto and in company with Mrs. Stowell and his son insisted on treating Mrs. Booth and myself to a wonderful automobile ride of a hundred miles or more through the orange district and the surrounding country, winding up for dinner at the Santa Anna Inn. In the course of the drive we hunted up the ranch of our old classmate Zapf in the town of Orange, having in mind his invitation to all members of the Class to call on him and eat up his fruit. We were disappointed, however, in finding that Zapf had departed for the East about six weeks before. I snapped some pictures of his bungalow, which, when developed, I will probably send him in lieu of a visiting card. We talked with some of his neighbors, however, and ascertained that in that locality he bears the reputation of being a law abiding and respectable person.

The Course VI men will also be interested to hear from the brothers Cooke — C. P. and John Winifield, who are wrestling with the many problems arising in the office of the city engineer of the rapidly growing city of Los Angeles. C. P. is field engineer and John W. works on special problems. Neither of the Cookes has been east since 1903 or thereabouts. They appear to be wedded to California but expect to visit Boston again some day, and meanwhile send their greetings to all their old friends.

Many '95 men will recall Frank M. Brininstool, who was with us during our freshman year. Brininstool left to study medicine at the University of Michigan at the close of our first year. His course there was interrupted by the panic and he went to Los Angeles where he engaged in the paint business. From a small beginning, starting when Los

Angeles was a city of only 75,000, he has built up a large manufacturing and distributing business, and now supplies a fair proportion of the paint for southern California.

On one of the last days of my stay Stowell engineered a '95 luncheon on short notice and tried to get as his guests all the '95 men in Los Angeles. Absences from town reduced the attendance to four — Stowell, C. P. Cooke, Brininstool and myself, but what we lacked in numbers we made up in enthusiasm and the health of '95 was drunk in the most approved temperance fashion. During my stay I was certainly treated royally by Stowell, who seemed to enjoy dropping his work whenever opportunity offered and whisking me around the country in his automobile. I can assure you that '95 has no more enthusiastic member than Stowell, and any '95 man who is in Los Angeles and fails to communicate with him will miss a good time and certainly an enthusiastic greeting and a delightful companion.

I had seen none of the men I met on this trip since 1895 and meeting them again was a very delightful experience. Very truly yours, (Signed) T. B. Booth.¹⁵

1896

CHARLES E. LOCKE, *Secretary*, M. I. T., Cambridge, Mass.

J. ARNOLD ROCKWELL, *Assistant Secretary*, 24 Garden Street, Cambridge, Mass.

The most important event to record is the successful observance of our twenty-fifth anniversary at the Wianno Club, Osterville, Mass., from June 16 to 19, 1921.

When the Class was celebrating last year at Falmouth Heights, George Merryweather undertook to combine business with pleasure and enlisting the aid of the Cape Cod travelers, Harry Brown and Buster Crosby, he and Geier set out one morning to look for a summer cottage for his family. The plan was to return for lunch, but it was late afternoon before the quartette returned tired but full of information. Some people that Brown didn't know were friends of Crosby and where both failed the genial Merry made good with the result that it was the unanimous opinion that of all the bright spots struck during the day's trip, the brightest and most hospitable was the Wianno Club where the Class of '85 was celebrating its thirty-fifth anniversary.

Accordingly when at the subsequent Class meeting it was decided to celebrate this year, it was voted to stage the celebration at the Wianno Club and Harry Brown was made a committee of one to secure accommodations there. Only the secretary knows the time and diplomacy that Harry used to get the Club to agree to take us in, but those who were fortunate enough to be able to attend this year will agree that Harry showed rare judgment and did his job well.

The rhymes of our Class Poet, Bob Flood, and the magic attraction of the "twenty-fifth" brought a good bunch of replies to the preliminary bulletins and at noon of June 16, there assembled at the Engineers Club, Boston, four autos to start over the road. Rockwell took Anderson and Mark Allen, Thompson took Barker and Walker, Hallaran took Mansfield and Locke took Brown. At Quincy Square the two Driscolls were picked up and also Partridge who wanted company and took Allen from Rockwell and gave him the ride of his life. On arrival at the Club it was found that Buster Crosby had decided that it was too far to go back and forth to his home a mile away during the reunion and had accordingly moved to the Club. The honor of being the first registrant fell to Bert Spahr, who was assigned to the bridal suite. Lawrence and Tilley had come over the road from New York, Robinson brought Bell from Boston and Damon brought Sanderson from Boston, these two machines traveling independently from the party. George Hewins also turned up, thus making a total of twenty-two men for supper Thursday night. After supper Tyler showed up with Rawson; Bob Davis and George Hatch appeared and finally Harry Fisk checked in at 1.15 A. M., escaping the reception committee and going off to bed.

The Class had Tiffany Cottage assigned for its sole use and it became headquarters. Further accommodations were available in Wayside Cottage and in the main Club House.

The water attracted many on their arrival so that their first act was to take a swim. The first evening was devoted to general sociability, getting acquainted with one another and with the beauties and possibilities of the surroundings. The golf fiends gave the golf course a preliminary survey and after dark cards and reminiscences had the call.

Friday morning Lucius Tyler, who officiated as entertainment committee and who was

kept right on the job throughout the three days, started the tournaments. The greater part of the men started on golf, a few on tennis and a few went off on automobile explorations or roamed around the environs.

More arrivals were recorded. Ben Hurd from New Jersey picked up Ben Shepard and Milton Howe from New Bedford boat, the Hedge twins motored down from Plymouth. Con Young, P. B. Howard, F. A. Howard, Joe Harrington and Grush arrived via Boston; Hersey brought down Gilman and Tappan; Underwood had Stearns, Moat and Hyde, Vernon Peirce and Myron Pierce completed the arrivals during the forenoon. In the afternoon Butler Ames appeared with Merryweather. The former had an important engagement which limited his stay, but he could not forego the pleasure of driving down and seeing the fellows for a few minutes. Wise brought Nevin, Arthur Baldwin and Guy Morrill. M. L. Fuller drove down from Brockton. Fred Fuller, Billy Clifford, Dave Beaman, Dan Bates, Sam Hunt and Ted Jones also arrived in time for supper and in the evening the number was brought up to sixty-one by the arrival of Harry Baldwin bringing Gurney Callan. Harry said he had hard work to get Gurney to come and even after arrival it took some persuasion to have him stay all night. However, he seemed to have a fairly good time in a quiet way and ultimately spent all day Saturday with us.

The Class of '85, with our old host, Dr. Schubmehl of Squam Lake, arrived in time for lunch today and appropriate cheers were exchanged.

This evening we had engaged an orchestra and the time went all too rapidly with music, dancing, pool, cards and general conversation. The whist tournament started, but the men seemed to prefer to just play without shifting partners so the tournament idea was given up. Ted Jones copped a lady from the orchestra for dancing.

Saturday saw a bigger crowd on the links, more motoring, tennis and swimming and more arrivals. Tucker brought his son, C. Mason Tucker, and Lythgoe. Hultman drove down from Duxbury. Joe Knight arrived from Boston. He must have walked because he started Thursday afternoon, or at least agreed to do so, but did not arrive until Saturday. Moore came over from Falmouth Heights where he was staying with his family. Rutherford quit picking his Falmouth strawberries early Saturday afternoon and arrived in time for dinner. Harry Hayward, Bob Fuller and H. K. Sears likewise got in under the wire before the Class dinner bell, and Bill Huey breezed in unexpectedly all the way from Everett, Mass. This made a registration of seventy-two men, although on account of Ames' short stay the count at the Class dinner was one less. The final registration showed seventy-three by the appearance of Emerson Sunday morning.

An added attraction Saturday was sailing both in the forenoon and afternoon through arrangements made by Buster Crosby. Ben Hurd and Johnny Rockwell could not break their reunion traditions by having a try with rod and line during the reunion, so they located a likely pond and had such good luck with the black bass that it was on the breakfast menu the next morning.

The golf, tennis, and pool tournaments practically ended today and the golf championship of '96 versus '85 was won by the former represented by Hurd and Young who played in a foursome with Lyman and Pierce of '85. Hurd made ninety-eight, and Young made ninety-four, while Lyman and Pierce made one hundred and two and ninety-six respectively. The Class of '85 is a pretty good class but it can't play golf.

The motoring and sailing parties returned in the late afternoon and a bunch went in swimming before dinner.

At 8.45 P.M. when every one had been properly prepared and to the music of the orchestra we sat down to the Class dinner, seventy-one strong. This represented the climax of the chef's efforts.

During the dinner there were delivered various personal telegrams and mementoes which had arrived via Eddie Mansfield who put into them a lot of time and originality so that their distribution created much amusement. Among them was a dynamo for Beaman to help on his New Bedford electric light plant, an electric bell for Bell, two little white cubes for Damon to practice with, a little bottle of spirit for Fisk to remind him of what he forgot, a thermometer for Walker to enable him to keep track of his rabdiometer movements, a boat for Stearns of the Technology Yacht Club, a little doll to wheeze for Harry Brown when he was tired, a tennis racket for Gurney Callan to add to his noise-making property, a deck (of cards) for Crosby for his yacht, a gun for Captain Clifford, an auto horn for Rockwell, a golden rule of the folding inch variety for Partridge, a pair of links (cuff) for Ted Jones the golfer, a lump of coal (Black Stone) for Knight the legal member

and a bottle of cologne for the secretary to keep his temper sweet. Capt Bakenus's war citation by Josephus Daniels was read and this was followed by citation and elaborate decoration of Hultman for his labor as Commissioner on the Necessaries of Life in behalf of the poor and suffering of Massachusetts.

A procession of waiters preceded by a drummer brought a loaded tray to Joe Driscoll which on unveiling disclosed two man-sized implements of his avocation, and a similar procession favored Myron Pierce with a model of the Boston Common to be his very own and sacredly guarded for all future time as he has so constantly protected it in the past.

After the food had been stored away and P. B. Howard's cigars lighted the Class got down to business. Greetings and regrets were first read from Bakenus, Burgess, Chenery, Clary, Cluett, Fred Crosby, Dr. Coolidge, R. O. Elliot, "Father Geier," Charley Gibson, Stanley Howland, Jacobs, Jameson, Leighton, McAlpine, McCann, MacLachlan, Melliush, Merrell, Morse, Peabody, Pingree, Putnam, Root, LeBaron Russell, Smetters, Howard E. Smith, Stoughton, Sturm, Sumner, Tozier and Woodwell. Woodwell's toast was to the tune of Rackety Rix and read "Pommery Sec, Three X, Three X, Magnum, Bordeaux, Clicquot. Three Cheers for the M. I. T."

Johnny Dove timed a telephone call to come in while supper was on and one could almost see him weep and hear the tears drop as he told how he had counted on being present but couldn't persuade his Ford to travel so far from home. He sent his love to every one.

A night letter was sent to E. W. Rollins, President of the New Hampshire Tech Club, which was holding its annual field day at Three Rivers Farm, Dover, N. H., on Sunday. This contained greetings to the New Hampshire Club and guests and a pledge of the loyal support of '96 to President Nichols who was expected to be present as the guest of the New Hampshire Club.

The next business was the reading of reports of secretary and treasurer which were accepted. The latter showed a balance of \$71.21 in the treasury. In addition there is the Class Baby Fund of \$36.00, raised in 1916, and which according to all the evidence obtained goes for a present to Steve Gage's daughter. The secretary hopes some day to be able to see Steve and get this straightened out.

Formal action was taken to express the obligation of the Class to the following for the unequalled success of our reunion:

Lucius Tyler for his work on the entertainment committee, which kept him busy every minute.—Eddie Mansfield for his preparation of the Class dinner events.—Buster Crosby for his sacrifice in deserting his family for three days and for his fatherly care of the fellows and the many little arrangements which were perfected only by his local knowledge.—Harry Brown for all his work as committee on securing the place for the outing.—Horace S. Frazer of the Class of '85 and members of the Wianno Club who personally obtained the use of the Club for us. Mr. Skinner the manager who looked after our every want and left nothing undone for the success of the celebration.—The entire staff of the Club who so ably seconded Mr. Skinner's efforts.

The Class voted to contribute from the class treasury \$50 per year for the next five years to the M. I. T. Athletic Association for the support of Institute athletics.

A discussion of the advisability of abolishing Class dues and raising a permanent fund to supply sufficient income to pay running expenses of the Class led to a decision that the secretary keep in closer touch with the men by collecting Class dues, and it was voted that hereafter the Class dues should be \$2.00 per man per year with the privilege of becoming a life member with no further call for dues, on the payment of \$40.

The next question brought up was that of a twenty-five year Class Book. In a much smaller gathering of the Class previously it had been voted to publish such a book, but it seemed wise to discuss the matter at this larger gathering. The secretary reported that seventy-one men had filled in the blank on the first of the reunion bulletins, agreeing to take a book at \$5.00. A few had said that they did not care for the book and another small group had not made any entry under this heading. This meant that out of three hundred and fifty living '96 men less than one hundred had signed up for the book and indicated that there was not a unanimous call for it. The pledges which were asked for in the same bulletin for the purpose of financing the book and taking care of the extra expense of the reunion amounted to over \$600. Inasmuch as the funds in the treasury have more than sufficed for the reunion expense this total amount becomes available for



CLASS OF '96 AT WIANNO CLUB

Back group, left to right: Barker, P. B. Howard, Damon, Hultman, F. A. Howard, Walker, Hedge, Howe, Nevin, Sanderson, Tyler, Davis, Hatch, Gilman, Lawrence, Bell, Morrill, Hunt, Underhill, Harrington, M. L. Fuller, Tucker, Lythgoe, Young. *Front group, left to right:* Thompson, Moat, Shepard, Hedge, Hewins, Wise, Locke, Hallaran, Crosby, Robinson, Partridge, H. S. Baldwin, Merryweather, Tappan, Tilley, Peirce, Clifford, Allen, Rawson, Bates, Joe Driscoll, Mansfield, Jones, Anderson, Fisk, Rockwell, Hurd, Brown, Grush, Pierce, Jim Driscoll, Beaman, Stearns, Hyde, Callan, Fred Fuller, Arthur Baldwin.

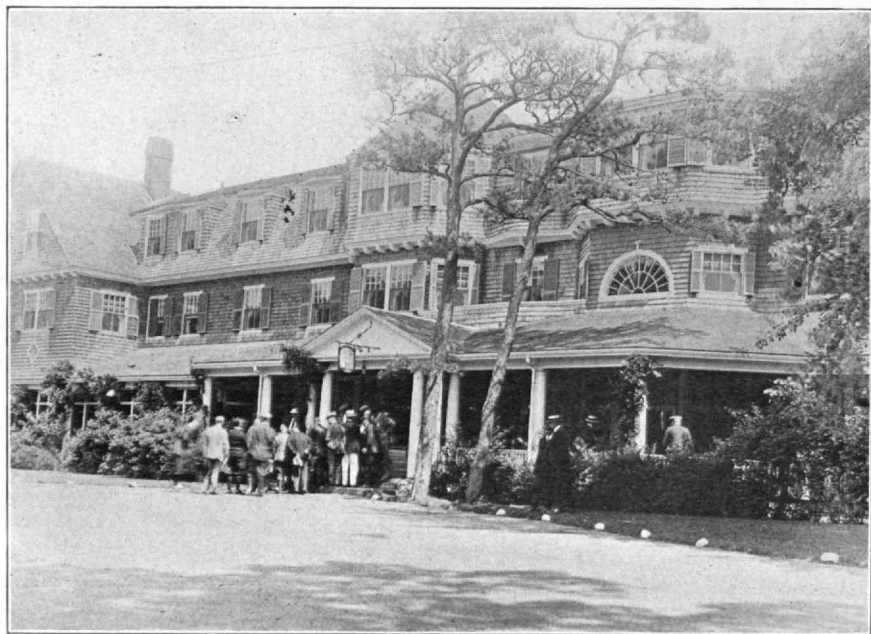


BOB FLOOD — '96 CLASS POET



CLASS OF '96 AT WIANNO CLUB

Back group, left to right: Davis, P. B. Howard, Barker, Sanderson, Hedge, Hatch, Gilman, Robinson, Merryweather, Lawrence, Bell, Morrill, Hunt, Peirce, Harrington, Pierce, Callan, Hewins, M. L. Fuller.
Front group, left to right: Walker, Hallaran, Wise, F. A. Howard, Locke, Thompson, Damon, Howe, Partridge, Hultman, H. S. Baldwin, Shepard, Tappan, Hedge, Tilley, Underhill, Clifford, Crosby, Moat, Allen, Rawson, Bates, Tyler, Joe Driscoll, Mansfield, Jones, Anderson, Fisk, Rockwell, Hurd, Brown, Jim Driscoll, Hersey, Tucker, Stearns, Beaman, Arthur Baldwin, Lythgoe, Fred Fuller, Young, Hyde.



MAIN CLUB HOUSE, WIANNO CLUB

the book fund. This book question proved a fertile subject of debate. It was found that opinions ranged from a simple list of names and addresses to an elaborate book with pictures of the men, at an estimated cost of \$2,500.00. A request by Hurd for thirty men to underwrite a book of the latter type at \$100 per man brought forth only fourteen responses and failed.

The sentiment seemed to be for an intermediate plan of an inexpensive book along the line of Who's Who, without pictures of the men but containing biographies and a concise history of the Class to date with some group pictures. It was pointed out that it is hard enough to secure biographies from the men and almost impossible to obtain a complete set of photographs. A book along this line would be similar to our ten-year book and should cost somewhere between \$500 and \$1,000. On motion of Joe Driscoll, duly seconded, it was voted, forty to nineteen, that the sentiment of the meeting was in favor of publishing a twenty-five year book. A request for thirty men to underwrite such a book at \$25 per man brought forth thirty-four responses. This seemed to decide the book question and it was further voted that the secretary appoint a committee to have full charge of this item, including the handling of the money and the preparation of the book, the secretary to be chairman of this committee. The work will be gotten under way shortly and the co-operation of every fellow is urged in order that the book may be issued as cheaply and as early as possible.

In the discussion of the book question, Charlie Lawrence told the story of his scholarship experience at Tech and made the suggestion that a simple inexpensive book would answer the purpose nearly as well as a more elaborate volume and that the Class would be better off to take the money which would be saved and put it into something more permanent which would stand as a memorial of '96 for all time. He proposed a '96 Class Scholarship Fund the income of which would carry at least one scholarship and would be given by preference to descendants of '96 men and to students at the beginning of their freshman year. This idea took hold immediately and before the meeting closed pledges had been made by forty-two men calling for a total payment of \$4,630 over a period of five years. Further canvass of the men was made by Lawrence, but the secretary has not yet received from him a report of the total. Men who were unable to attend the reunion will have a chance to participate in this memorial fund and it is believed that it will be possible to raise \$6000 or \$7000. The money will go on interest as soon as received and the plan is that only the income shall be used with the understanding that the beneficiary shall later pay it back and such repayments shall be added to the principal, thus causing the fund to increase as time goes on.

It seems that by this action the honor comes to '96 of being the first Class to observe its twenty-fifth anniversary by a substantial memorial gift for Technology.

The meeting finally adjourned about midnight and by 4.00 A.M. every one was in bed.

Sunday was the final day and was devoted to motoring, golf, bathing and breaking up. Emerson joined us today. The two Hedges had gone back to Plymouth late Saturday evening owing to the illness of one of the children. Damon had likewise departed about the same time, taking Callan with him. By Sunday noon about thirty had departed. The tournament prizes were distributed at this time. See official records later. By 4.00 P.M. practically every one had gone except Tilley and Lawrence who were going on to Provincetown and were packing up, and Buster Crosby who was left to go home to his family — the first on the job and the last to leave — with a happy feeling of a job well done. Thus ended an ideal reunion with a record of three days of complete sunshine and three perfect nights with full moon, three days of seeing the old faces and talking over old times, and finally three days of warfare against the clam, lobster, chicken, asparagus and other food hordes which Skinner sent in to overwhelm us. To our credit be it said that every man did his duty and held the enemy, finally withdrawing in good order. What would have happened after a week of such fare is a question. It is safe to say that every one went away with a feeling that it was well worth while and with a memory that will linger as long as the breath of life and finally with a determination to be present at the same place on our thirtieth. There is even a possibility that a small bunch may undertake to make an annual pilgrimage to Wianno.

As sidelights on the gathering, the credit for coming the longest distance belongs to Charlie Hyde from California with Milt (Houston) Howe a close second from Texas.

It was a sad coincidence that Leighton and MacLachlan who had planned to come both suffered the loss of a mother just a day or two before the reunion.

Complete weight records were not obtained but a few of the heaviest weighed in as follows:

	Osterville 1921	Squam 1911
M. L. Fuller.....	251	242
Tilley.....	243	241 $\frac{7}{8}$
Locke.....	209	217
Partridge.....	200	187
Hultman.....	198	...
Knight.....	175	...
Hunt.....	164	...
F. H. Smith.....	...	210
Lythgoe.....	...	206
Merrell.....	...	250

It will be noticed that Fuller now exceeds Merrell, the 1911 champion by one pound and has obtained a good lead on Tilley. Unfortunately Merrell could not be present this year to defend his laurels.

It came out that some of the boys are in the grandfather class. Sanderson confessed to the ownership of a granddaughter, Lydia Elizabeth White, born December 5, 1920, to Sandy's oldest daughter Marion who married Maurice B. White. Buster Crosby has a grandchild about six months old and R. O. Elliot reports that his daughter has a little daughter three months old.

This grandchild contest is important and it is hoped that every one in the grandfather class will send in his record. The secretary has a step-grandson eight years old but this is hardly within the requirements.

In the golf tournament preliminaries Anderson won over Rockwell, Robinson over Thompson, Joe Driscoll over Hewins, Jim Driscoll over Mansfield, Shepard over Barker, Hurd over Young, W. R. Hedge over Harrington, Stearns over H. R. Hedge and Tappan over Pierce while Brown, Wise, Fish, Bates, Jones and Merryweather went bye. Next round Robinson won over Anderson, Joe Driscoll over Jim Driscoll, Bell over W. R. Hedge, Tappan over Stearns, Wise over Fisk by default, Brown over Bates and Jones over Merryweather. In the third round Robinson beat Joe Driscoll, Hedge beat Bell, Wise beat Tappan and Jones beat Brown. In the semi-finals Robinson won over Hedge, and Jones over Wise. Jones won the finals and received first prize of silver cup and Robinson second prize of silver cup.

In the pool tournament Shepard beat Partridge, Walker beat Tyler, Crosby beat Morrill, W. R. Hedge beat Lawrence and Tilley beat H. R. Hedge. In the next round Shepard and Crosby survived and in the final round Shepard won first prize of cigar cutter, leaving second prize of gun metal match safe to Crosby.

In tennis Sanderson won over Beaman, Davis over Lawrence, Fred Fuller over Underhill while Rawson and Wise defaulted. Next round Sanderson beat Davis and Fuller went bye. Fuller won finals with first prize of silver cigar cutter and giving Sanderson second prize of gun metal match safe.

Following is a complete record of attendance, arranged by courses.

Course I: Mark Allen, Jim Driscoll, Joe Driscoll, John Hallaran, George Hewins, F. A. Howard, P. B. Howard, Joe Milton Howe, Gene Hultman, Vernie Peirce, Myron Pierce, N. H. Sanderson, Sam Wise.

Course II: Edgar Barker, Harry Baldwin, George Hatch, Joe Harrington, Bill Huey, George Merryweather, M. Ernest Moore, Lewis Tappan, Bert Thompson, Fred Walker, Con Young.

Course III: Billy Anderson, Charles Locke.

Course IV: Butler Ames, Bob Fuller, Charlie Nevin, Harry Rawson, Ben Shepard, Bert Spahr.

Course V: Frank Hersey, H. C. Lythgoe, Charley Moat, C. W. Tucker, C. Mason Tucker.

Course VI: Arthur Baldwin, Dave Beaman, Stewart Bell, Harry Brown, Gurney Callan, Fred Damon, Bob Davis, Eugene Emerson, Fred Fuller, Harry Grush, Ben Hurd, Ted Jones, Charlie Lawrence, Eddie Mansfield, Guy Morrill, Welles Partridge, Elmer Robinson, N. F. Rutherford, Walter Stearns, John Tilley, Lucius Tyler, Perl Underhill.

Course VII: John Rockwell.

Course IX: Billy Clifford, Harry Fisk, Harry Gilman, Henry Hedge, Will Hedge, Joe Knight, Henry Sears.

Course X: Dan Bates, Harry Hayward, Sam Hunt.

Course XI: Charlie Hyde.

Course XII: Myron Fuller.

Course XIII: Buster Crosby.

The following men had reported as hoping to be present, but were obliged to finally give it up: Fred Ashley, George Burgess, Justin Campbell, W. H. Chenery, William D. Coolidge, L. M. Cotton, Henry Cummings, Charles W. Davis, Leonard Dickinson, W. T. Dorrance, Johnny Dove, A. L. Drum, Richard Elliot, Charlie Foss, Fred Geier, Gaylord C. Hall, Charlie Hapgood, W. E. Haseltine, E. C. Jacobs, Walter James, Eugene Laws, Marshall Leighton, Paul Litchfield, A. D. MacLachlan, Jim Melliush, Irving Merrell, K. A. Pauly, Walter Pennell, Harry Sherman, C. H. Stone, Bradley Stoughton, Meyer Sturm, C. B. Tower, Harry Tozier.

The final list is of those who reported at the start that it was going to be impossible for them to be present: R. E. Bakenhus, Percy Bicknell, Edward Bragg, Lewis Cannon, Robert C. Clarke, Joe Clary, A. E. Cluett, Steve Crane, Fred Crosby, Charlie Cummings, W. E. S. Dening, Edward Eames, James Eaton, Bob Flood, Frank Guptill, Jim Haste, Stanley Howland, Minor Jameson, Howard K. Jones, Billy McAlpine, Frank McCann, L. E. Marble, Louis Morse, H. D. Newell, F. R. Peabody, E. D. Pingree, Johnny Putnam, W. L. Root, A. Ruckgaber, F. F. Rundlett, LeBaron Russell, Mort Sears, H. K. Sheridan, Frank Smalley, Howard E. Smith, Paul D. Smith, Russell T. Starr, George Stratton, George Sumner, H. S. Taft, Robert Wason.

The summary of the foregoing figures is as follows:

Attended (including Tucker's son).....	73
Hoped but failed.....	41
Absolutely not.....	34
Total replies.....	148

Comparison with past reunions shows the following attendance:

Ipswich 1906.....	18 men
Squam Lake 1911.....	23 men
Saybrook 1916.....	51 men
Falmouth 1920.....	24 men
Wianno 1921.....	73 men

The tendency to increasing numbers is distinctly marked and if the men live long enough we may expect a record of 100 per cent attendance. A fellow who comes once, comes again. Of the original eighteen men at Ipswich, Harry Baldwin, Brown, Fisk, Fred Fuller, Gilman, Grush, Hersey, Knight, Locke, Mansfield, Partridge, Rockwell, Tappan, Thompson and Wise were present this year. Of the three remaining, Jim Reynolds is dead, MacLachlan had planned to come but was prevented by the death of his mother, and Root found himself unable to get away this year. This original bunch can be depended on at every reunion.

The five hundred and six names which are on the Secretary's list are distributed as follows:

Men living.....	353
Women living.....	30
Men and women dead.....	83
Honorary members living.....	1
Honorary members dead.....	1
No address.....	38
Total.....	506

At the inauguration dinner of the Alumni Association in the Walker Memorial, on June 8, eight '96 men were present to hear President Nichols, as follows: Rockwell,

Knight, both Hedges, Hayward, Sanderson, Rutherford and Locke. This meeting also gave an opportunity to discuss arrangements for the June reunion.

A recent publication from the press of D. C. Heath & Co. is a "Text Book of Geology," by A. W. Grabau. While intended as a standard text-book, the author has tried to produce a work valuable for reference and to introduce a new arrangement of material and to describe typical examples of geological phenomena rather than to limit himself to generalizations.

Ted Jones sent the secretary a copy of his address before the Brooklyn Rotary Club, in February, on the Industrial Development of Brooklyn. It is a brief but comprehensive story of the commercial development up to date, and commercial possibilities of Brooklyn. — Paul Litchfield called upon the secretary on March 30. His presence in Cambridge being due to the meeting of the corporation that day for the election of President Nichols. Litchfield reported that the tire business was about half of normal, but that he was very busy in connection with the straightening out of the Goodyear affairs. At that time he hoped to be able to attend the reunion but had to give it up later. — Billy Anderson, as president of the Ferro-Concrete Construction Company of Cincinnati, has favored the secretary with photographs of structures erected by the company. He has also recently issued a pamphlet on modern construction service which indicates that his company is optimistic for the future and is going right after the business.

Lucius Tyler whose business has mainly been in manufacturing automobile accessories, has recently taken over the Boston agency of the Kelsey automobile. This is a friction drive car which avoids the disadvantages of previous cars of this type. The mechanism is extremely simple and it would seem that this car would have a good future. It is a fact that one who has once driven a friction drive car always favors it afterwards. Dr. W. D. Coolidge was in Boston at the Medical Convention, and gave a talk before the doctors, on June 2, dealing with modern developments in X-Ray tools. Coolidge was also scheduled to speak at the '96 reunion but Mrs. Coolidge had been critically ill with pneumonia and had not fully recovered, so he reluctantly gave up his original idea of participating in the reunion. He plans to go off on a long vacation which he has not had for some time and which he has well earned.

Marshall O. Leighton has opened, in the McLachlen Building, Washington, a South-eastern branch of the Engineering Business Exchange and will co-operate with the main office, at 30 Church Street, New York City, although it will have special charge of the territory from Maryland to Alabama inclusive. Leighton has been favored with many press notices recently, citing his first work in charge of the Health Department of Montclair, N. J., which made Montclair known in sanitary circles both nationally and internationally. In 1902 Leighton became connected with the United States Geological Survey and for many years he held a large share of the responsibility for its hydrographic work. He served during that time on many important commissions, such as the United States Inland Waterway Commission, the Commission on the drainage of the Florida Everglades, etc. For eight years past he has been engaged in consulting engineering practice in Washington, D. C. Leighton's public service, and that by which he has become widely known, has been rendered as the leader of the organization created by the engineering societies to establish a Federal Department of Public Works, carried on during the past two years. The outcome of that work has been the present well-determined policy to reorganize completely the Government business at Washington and introduce into it modern methods of efficiency.

Andy MacLachlan is getting into the father-in-law class, the marriage of his son Andrew Dugald MacLachlan, Jr., to Muriel Audrey Southerland being announced to take place on Tuesday evening, June 21, in Trinity Church, Melrose, Mass.

Bradley Stoughton has resigned his position as secretary of the American Institute of Mining Engineers, to take effect as soon as his successor is chosen. Bradley has always felt that this job should be of limited tenure and when he entered upon it, in 1913, he made a time limit of five years. He was prevailed upon to extend the time somewhat, but has finally reached the conclusion that the only way that he can get out is by telling the society that they must elect his successor. Bradley has done wonderful work. He has seen the Institute grow from a membership of three thousand two hundred to over nine thousand, from four local sections to twenty-six, from one technical committee to eighteen, from one volume of publications per year to three per year, from a budget of \$55,000 per year to over \$200,000; from practically slight connection with student societies to a close co-operation with its thirty-seven affiliated student societies in various institutions.

Stoughton has also made the society a real thing to the members in all parts of the country by making periodical tours and addressing the various local sections. He has developed the employment agency, thereby increasing the value of the Institute to its members and he has seen the character of the Institute change so that it is now a potent factor in participating in various public activities. He should feel that during the past nine years, although he has made a considerable financial sacrifice, to serve as secretary, that he has been more than repaid by the friends that he has made and by the splendid and whole-hearted service that it has been his privilege to give to the society. His future plans are not definitely settled, but he expects to go back into his old line of iron and steel metallurgy. His son, Philip, is now a student at Technology.

The Boston *Herald* has been featuring '96 men somewhat of late. The Sunday issue of June 5 contained photographs and mention of several members of the Class with stories of what they had done during the twenty-five years, and the Sunday issue of June 19 carried a full-page story of Welles Partridge and his development of the man-carrying kite for war observation purposes.

Through the kindness of Merryweather and W. A. Dorey (1900) the following account is given of Charlie Hollander whose death was briefly mentioned in the last REVIEW.

"Charlie was killed instantly in an automobile accident at Coshocton, Ohio, August 26, 1920. He is survived by his wife, Mary Hale Hollander, and one daughter, Lucy.

At the time of his death he had been manager of the Newark Telephone Company for eighteen years. During that time and largely through his efforts the company had grown from two exchanges with seven hundred subscribers, to seven exchanges with about eight thousand subscribers. He had the automatic system installed here some years ago and had recently taken over the local Bell system.

Charlie was one of the organizers of the Ohio Independent Telephone Association and was well known and loved by telephone men throughout the state.

He was immensely popular and his loss was felt keenly by all of his employees, the officers of his company, and all the rest of us."

Merryweather reported that he used to see Charlie every few years when he would run up to Cleveland on business and he had developed into a good substantial all-round type of business man and it was a pleasure to see and know him. He had also become a very enthusiastic golf player.

Word has just been received that Francis Miller, Course IV, died January 21, 1921, at Orlando, Florida. He went south nine years ago, hoping to regain his health but, although he waged a heroic battle, he finally lost out.

Another death recently reported is that of John L. Hildreth, Jr., which came on December 3, 1920. Hildreth will be remembered by the fellows of Course I, although he never finished his course, being obliged to leave on account of ill health. He had previously graduated from Dartmouth College in 1892, and from Harvard in 1893. His death occurred at Bayonne, N. J., where he had been for some years in the employ of the Standard Oil Company. Previously he had worked as a hydraulic engineer in connection with the water supply systems of New York and Boston and the sewer system of the Passaic valley. During the war he was at Port Newark in government employ on construction work. He leaves a wife and four children.

Some delayed information came to the secretary in connection with the search for missing men. It has been found that Leander Burnett died at Avalon, Pa., December 27, 1906. He was a graduate of the Michigan Agricultural College of the Class of 1892 and came to Technology for one year in Course VI. He was the grandson of an Indian Chief after whom the city of Petoskey, Michigan was named. Although he was an original American and his copper colored skin would attract attention anywhere, he was very highly regarded among his fellow students. He was the champion athlete of the Michigan College and a baseball pitcher of no small repute throughout the State. He married Miss Grace LaVerne Fuller who died in 1900, and who was also a graduate of the Michigan Agricultural College. Burnett followed the work of an electrical engineer as long as his health would permit.

Edwin A. Brown died not long ago as the result of illness contracted during the war. The secretary has been unable to secure any details regarding Brown or his war work or even the date of his death, but it is understood that he held the rank of lieutenant. If any classmate can supply information regarding Brown, the secretary will be very grateful.

Another death is that of A. J. Lyall, which occurred in 1906. Lyall was a graduate

from Amherst College, with the Class of 1895, and spent one year at Technology taking architecture with the senior class.—Robert J. Forsythe died in Braintree, May 23, 1907. He was A.B., Harvard, 1894 and spent a year at Technology in Course III.—Graham Jones who was also Harvard 1891, died September 9, 1920, at the Isle of Wight, England. He spent a year at Technology, studying architecture with the senior class.

Some classmates formerly missing have been discovered, as follows: Dr. Herbert A. Bolan, 3827 Spring Garden Street, Philadelphia, Pa.; Frank D. Clark, 81 Fulton Street, New York City; Miss Ida M. Curtis, Bay State Branch, Old Colony Trust Co., Boston, Mass.; Charles H. Hall, 37 Crooke Avenue, Brooklyn, N. Y.; Arthur C. Nash, 345 Fifth Avenue, New York City; Rev. John Whitmore, Eastern State Hospital, Bearden, Tenn.; John Wagner, 704 Lodi Street, Syracuse, N. Y.

1897

JOHN A. COLLINS, *Secretary*, 67 Thorndike Street, Lawrence, Mass.

CHARLES W. BRADLEE, *Acting Secretary*, 54 Canal Street, Boston, Mass.

The Class of '97 held its twenty-fourth anniversary reunion at Swampscott, June 17 to 19. Headquarters were maintained at the Bellevue, which was within easy reach of the Tedesco Club, where through the kindness of Bradlee we were given the privilege of playing. Friday afternoon, Bradlee, Breed, Lamb and Hopkins played golf so late that they were obliged to go to Marblehead to get something to eat. In the meantime Ben Howes and Eames showed up at the Bellevue. Saturday morning golf at the Tedesco Club was again in order, at which Hopkins and Worcester scored a glorious victory over Bradlee and Lamb, with Eames and Howes for gallery. After lunch the party, which Wilfred Bancroft and Jack Ilsley had by this time joined, went fishing in a motor boat off Swampscott. The fishing might have been successful had not Ben Howes eaten all the clams taken along for bait.

Saturday night came the Class meeting and dinner at the Ocean House. Seventeen men had promised to be on hand, but the following eleven showed up: Bradlee, Wilfred, Bancroft, Howes, Lamb, Learned, Hopkins, Swan, Ilsley, Eames, Marshall and Worcester. After dinner the plans for the twenty-fifth reunion next year were discussed, and a scheme was presented by which we can be assured of 100 per cent attendance at that event. Details of the plan will be furnished later.

Sunday morning after a sermon from Dr. Howes on "How the world should be run," more golf was indulged in, with Hopkins and Worcester as usual victors over Bradlee and Jack Ilsley. After lunch the party broke up, leaving Bradlee to wonder how he would pay the bills.

An appeal for news items for the July REVIEW, was sent out in June, with the following gratifying results. We will be glad to hear from more of the Class, however, so send in something of interest from time to time and it will be published in the Class notes. Keep in touch with your classmates through this medium and help keep the Class spirit alive.

Herman W. Marshall writes:

"Interesting information is requested concerning members of the Class of '97. My contribution may be of doubtful merit, but it will show what happened to a graduate of the biological department.

After leaving the Institute I became a health inspector in Montclair, N. J., and then went to the Rhode Island Agricultural Experiment Station as a bacteriologist. These experiences in testing milk, plumbing, hunting smells, issuing burial permits, investigating diseases of chickens and turkeys led to a medical career. In 1904 I graduated from the Johns Hopkins Medical School, remained there for a year, then transferred to the Massachusetts General Hospital where I was attached to the staff for ten years. Orthopedic surgery interested me and grants were obtained from the Rockefeller Institute of New York and the Carnegie Institution of Washington to carry on investigations into causes of chronic joint diseases.

For a while I was associated with Dr. Joel Goldthwait of Boston, then I established myself independently in practice where I am located at present. Industrial problems relating to injuries to workmen engaged my attention and various insurance companies

and industrial corporations have contributed patients. Much of my work is purely private practice and all is restricted to affections of bones, muscles and joints. If any members of the Class of '97 contract flat foot, wry neck, hump back, rheumatism, housemaid's knee, or get their legs pulled uncomfortably I hope I can be of some practical service to them. For the increasing number who exhibit adiposity traceable to prosperity and affluence there is no hope. Let them suffer."

B. H. Holmes answered the appeal for news by sending the following:

"Howes has returned from spending a year around the Gulf of Mexico and in Mexico on oil transport problems. He says Mexico will continue to produce oil in vast quantities for many years to come, but that many of the producing companies have managed their development so unscientifically that they face large losses and have good reason to fear early extinction of production.

In the coastal regions fifty miles south of Tampico he found in February the finest hunting ever; myriads of canvas-back and other luscious ducks could be shot without blinds and decoys; deer nearly as tame as cattle and jaguars (or El Tigre) up to nine feet were quite plentiful. No game laws to interfere. Parrots galore.

Most of the hold-up stunts were being pulled by Americans and the reports from New York and Chicago made Mexico seem like a peaceful rural community. Bandits, while scarce, were rapidly being converted and mostly by the mauser and burial method.

Walter Spear after his year in Greece planning water supply and sewage disposal for Athens has been grabbed back by Father Knickerbocker to seek more water supply for the thirsty young New Yorkers of 1934. He returns thickly tarred by the "Customs of the Country." His favorite sport is to beguile an unsuspecting friend or two into the hinterland of the darkest East Side, where the menu and Walter's speech are conducted in the most weird hieroglyphics, not in the least like the language of Virgil as the school-marm taught us. Then he waxes fat on octopus stewed in oil, butterless bread and other dishes too strange to be described in the U. S. A. The patients usually recover and sometimes come back for more. I expect to."

Thomas C. Atwood is the supervising engineer in charge of the construction of extensive new buildings for the University of North Carolina. The *Citizen* of April 28, 1921 said in part.

"Mr. Atwood, one of the best-known building engineers in the United States, arrived today and will be in Chapel Hill continually until the \$1,490,000 construction work is finished. As executive officer of the building committee he will act for it in the general supervision and inspection of the work, and will be directly responsible for the biggest piece of construction the university has known.

Mr. Atwood comes to Chapel Hill from a big building job for the Durham Hosiery Mills. A graduate of Massachusetts Institute of Technology, he has been associated with the construction of the monumental pumping stations of the Metropolitan Park system in Boston, has built filter plants in Philadelphia, reservoirs and pumping stations in Pittsburgh and was division engineer in New York on the construction of a new water system. He was in charge of the construction of the Yale bowl at New Haven, built Camp Merritt, New Jersey, was supervising engineer for the navy in the construction of the Squantum destroyer plant, Boston, was in charge of all construction for the Emergency Fleet Corporation on the Atlantic coast between Baltimore and Wilmington and has built mills and mill villages for the Durham Hosiery Mills.

He will have offices at the university, will remain on the job until the work is finished and will give his full time to the project."

Allen W. Jackson writes that his wife died February 6, 1921. He has three children and is spending the summer in England and France with the oldest, Harriet, who goes to Vassar in the fall.

Ernest F. Learned has recently been appointed sales agent of the C. W. Hunt Engineering Corporation, with an office at 141 Milk Street, Boston, Mass.

We have received the following regarding the death of Mrs. F. F. Perry, the mother of Oswald C. Hering, '97:

"Mrs. Fanny Field Perry, who was born in St. Albans, Vt., in 1850, died at Philadelphia, June 7, after a long illness. She was a lineal descendant of Roger Williams, founder of the State of Rhode Island, and a daughter of Isaac Newton and Emily Mary Gregory. her first husband was Dr. Rudolph Hering, a well-known civil and sanitary engineer of Philadelphia and New York. They were divorced in 1893, and in 1899 Mrs. Hering was

married to the late E. Wood Perry of New York, a painter and member of the National Academy of Design.

In her youth Mrs. Perry was an accomplished musician and an author of note. Her most important contribution was "The Life of Jean Leon Gerome," the famous French painter and sculptor, who was her lifelong friend. Old Philadelphians recall the Sunday evening salons in the Hering home at which Rubenstein, Gerster, Fursch-Madi, Hermann Linde, Will Gilchrist, Stephen Ferris and others in the world of music were guests. She is survived by her two sons, Oswald C. Hering, architect, of New York, and Ardo Hering.

W. C. Potter, III, suffered a loss of \$10,000 in jewels which were taken from his summer home by burglars. Wadleigh, II, sent this information to the secretary with the comment, "Oh, why are not more of us like this man!"

We received the following from Grafton, W. Va.:

"I do not know how far back into history you want me to go in telling of my activities, but I will take it to be about a year. During that time I have been serving as Campaign Manager with the American City Bureau, my work being the conducting of campaigns for organizing Chambers of Commerce. We are developing general community organizations whose purpose is the building up of the city in all directions, educational, recreational and health conditions, as well as trade and industry. The purpose of the Chambers of Commerce that we organize is to constitute a citizenship body representative of all the elements of the community, including business, professional and laboring men, also women, which organization shall plan the development of the city.

My work during the year kept me for a month or more at a time in various cities, in Mississippi, South Carolina, North Carolina, Virginia, West Virginia, New Jersey and New York. Lots of interesting things have happened to me, but this is probably more than you will have room for.

With best wishes for yourself and the other fellows, I remain, Sincerely yours,

(Signed) WILLIAM C. EWING."

William A. Kent wrote as follows:

"I have broken my record. I was in Knoxville, Tenn., for two years and one month, the first time in twenty-two years service that I have been anywhere for over two years. Congress, in its wisdom, having seen fit to disregard the opinion of experts, such as our Commanding General, reduced the size of the army, so recruiting had to stop. I was then sent down here in charge of a campaign to issue the Victory medals to those entitled to them. I have all of the southeastern states under my supervision and over 188,000 medals were issued during April and May. Thousands did not know that they were entitled to the medal, other thousands simply put off applying for it. I expect to leave here next month for Washington, D. C., as I have been ordered to the General Staff College as a student officer, a detail which I have been trying to get for eight years. So after August 1, my address will be there. The principal trouble with this work is lack of exercise. I tipped the scales yesterday at 200 pounds, some heavier than I was twenty-four years ago, too heavy. Forgot to say that I was detailed in the Adjutant General's Department a couple of months ago, so expect to wear a shield instead of the crossed rifles for a while. Best regards to all."

Another interesting letter was received from Owen W. Gray:

"My dear Bradlee: What I have to say in answer to your appeal of June 6 can hardly be considered news, nevertheless I am always so very much interested in the slightest scrap of information about one of my old classmates that I am going to give you a few personal items in the hope that some of my friends may be interested.

I wandered out here (Salt Lake City) about two years after graduation. I went to work for the leading electrical engineer of this locality and two years later, when he left this country I succeeded to his business and have been running an office of my own ever since, specializing on hydro-electric work. During the last six years I have added contracting to my other work, and have formed the firm of Gray & Murdock for this purpose. We are building power plants, wood stave pipe and concrete roads all over Utah and Idaho. Although I am in a Mormon community I haven't yet even one wife. Aside from that I have had pretty good luck.

We have about twenty-five or thirty Tech men in and about this state, but our interests are so different that we don't get together very often. If any '97 men are passing through this city, I should be more than glad to have them drop in at the office or at the University Club for at least a brief visit."

And George R. Wadleigh writes:

"I find myself in the position of not being able to be with you at the reunion next Saturday and Sunday as I have been counting on for some weeks. Inasmuch as the real "get-together" will be next year, will have to be content with that.

I wish I really had something interesting to write you, but my life is that of the average engineer with an industrial concern, doing no really big things, but having a multitude of small matters, mechanical, structural and power, taking up the time from day to day and week to week. We are just about starting a new soda pulp mill which has, we believe, several advanced features. Within a few weeks we will have going one of the first electrically driven paper machines in the country.

Occasionally I see Jennings and have lunch with him. This is about all of '97 that I seem able to connect with, although I did see Joe Bancroft for a few minutes two or three months ago. Best regards to all and wishes for the finest kind of a time."

Hugh K. Moore was unable to attend the reunion at Swampscott, Mass., June 17-19, but we received the following telegram from him:

"Had planned to come but cannot; other engagements. Hope you have a fine time and that the Class will drink to my health as I shall to it. Remember me especially to Joe Bancroft if present. Rah, rah, rah, ziss boom bah; ninety-seven, ninety-seven rah, rah, rah."

It is clear that Moore, although he cannot be with us, has the proper spirit, and we hope that more men will get this spirit instilled into them between now and our twenty-fifth reunion. We need just such men.

1898

A. A. BLANCHARD, *Secretary*, M. I. T., Cambridge, Mass.

At the '98 table at the inauguration dinner in Walker Memorial on June 8 the following men of our Class were present: McIntyre, Peavey, Page, Rutherford, Lansingh, Godfrey, Sickman, Barker, Warren, Blanchard.

Lansingh has just been elected Alumni member of the Technology Corporation and we may be sure that he will attack the problems of the Corporation with his customary energy and will make his influence felt for the good of the Institute. — Colonel Harold W. Jones' address has come to the office as Care Chief Surgeon, U. S. A., Manila, P. I., and the secretary has just received from him a post card bearing a picture of the entrance to the palace of the Forbidden City, Peking, and saying that he is still running at large but in a new place.

A number of clippings are on the secretary's desk telling of illustrated nature talks by William Lyman Underwood. This is nothing new for Underwood, for it has for years been his chief pleasure to collect material for these talks. The pictures which he has taken are unsurpassed in their photographic technique and in their coloring. He hunts with a camera and he has marvellous pictures of wild animals, birds and fish in their natural environment from New Brunswick to Florida. At a recent children's party for the families of the M. I. T. faculty he gave his Bear Talk, and he held the children (from four to twelve) in breathless attention for a full hour, and three of the secretary's kiddies have been talking about the bears ever since.

Many have been impressed lately when riding through Wellesley Hills, Mass., by the array of buildings of the Babson Statistical Organization and the New Babson Institute. A few paragraphs clipped from the catalog which Peavey forwarded will give some idea of the scope of the Babson Institute:

"The special object of the Babson Institute is to provide a one-year course of intensive training in the fundamentals of business for young men soon to occupy positions of authority, responsibility and trust.

It trains students in the following subjects essential for successful executive work: Practical Economics and the handling of commodities; Financial Management and the care of property; Business Psychology and the influencing of men; Personal Efficiency and the control of one's self.

The Institute aims to give the basic principles of all four departments and to show their inter-relations. Methods of instruction and many of the courses required are different

from what has been attempted before. For example, throughout the year when the student is getting the fundamentals he is also kept in close touch with current tendencies and monthly changes in business conditions through the Babson Reports.

Physical and moral development is just as essential for a well-rounded life as mental achievement. The Institute seeks to help the student think through clearly those ethical principles which must be fixed in a man's mind in order to give purpose, balance and effectiveness to his life's work. Although no specific gymnastic work is assigned, the teaching staff includes an instructor in hygiene and students are taught proper methods of caring for their physical well-being.

Even under modern conditions of available investment information the disintegration of inherited property is a too frequent phenomenon. It is of the utmost importance for a young man's continued success that he know how to care for property, and how to keep it intact. It is essential also that the executive shall know how to finance the seasonal and permanent needs of his business, and to provide for its expansion. These subjects are carefully taught; also the connection each has with the business cycle and with the law of equal and opposite reaction. Individual problems are examined and discussed by the instructors and students.

Experience shows that the fundamental basis of business success is the ability to get others to do what one wants them to do; that is, the ability to influence men. A twofold benefit accrues to those who make a study of how to control others; for in so doing they subconsciously learn how to control themselves. Realizing that the power to influence men is greatly enhanced by an understanding of individual and mass psychology, the Institute has made this course one of its features.

Ira M. Chase, Jr., is assistant engineer, Engineering Department, City of New Bedford, Mass.

Seth Humphrey's most recent article entitled "We are Populating the Earth with the Wrong Kind of Stock" in the *Journal of Heredity* was reprinted in the Boston *Sunday Herald* of April 10. An inset contains the author's picture and some of the salient points of the article as follows: "People who are brainy have the fewest children. The stupid, the improvident, the degenerate have the most. What are we coming to? Are we drifting toward a depreciated race, toward a final blaze of glory, our population reduced to a vast mass of mediocrity—a huge, incoherent proletariat, ridden by degenerate plutocrats, after the fashion of Babylon, Egypt, Greece and Rome?"

Seth King Humphrey of Boston, who deals with these questions in the following article, which appeared in the *Journal of Heredity*, is an author, inventor and student of heredity. His home is at the City Club; his office at 53 State Street. He is a member of the American Forestry Association, Indian Rights Association, Boston Society of Arts, Technology Club, Twentieth Century Club, City Club, Economic Club, Appalachian Mountain Club and Cosmos Club of Washington, D. C. He is the author of "The Indian Dispossessed," "Mankind," "The Racial Prospect" and various magazine articles.

Hollis Godfrey was full of enthusiasm regarding the scope and possibilities for service. of the Council of Management Education of which, as already noted, he is chairman. For seven years he has been president of Drexel Institute (as large in enrollment as our Massachusetts Institute of Technology) and he looks forward to next October when he will surrender the exacting responsibilities of that position and devote all of his energies to the Council. The object of this Council, as we have already stated, is to establish a harmony of effort between the colleges of the country and the industries.

1899

W. MALCOLM CORSE, *Secretary*, 603 Elm Street, Westfield, N. J.

The secretary received a very good letter from W. C. Phalen who was formerly with the United States Geological Survey. He is now with the Solvay Process Company, Syracuse, N. Y., as geologist. Extract from his letter is as follows:

"Since coming here, I have been elected to honorary membership in Pi Eta Sigma, the geological fraternity of Syracuse University and in March I had the pleasure of giving a paper before them on the latest theories regarding the origin of anhydrite and gypsum. This may sound very dry to you, but I pointed out how some of our latest knowledge on

this point of origin has a decidedly practical bearing and could, in the hands of those who know how to use it, save prospective industrial operators large sums of money by preventing useless exploration and investment. Also, within the last year, I have become a Master Mason, having taken my third degree quite recently. I started the work before leaving Washington and finished it here."

W. M. Archibald has recently been in Athens, Greece, doing some work for Ford, Bacon & Davis of New York City. The following is an extract from his letter which gives a very clear idea of the conditions in that country:

"For some time Greek banking interests have seen the need of additional water and sewer facilities for the city of Athens and its seaport Piraeus. Tech has been represented in an investigation to determine the best system for the city. In 1919 Ford, Bacon & Davis of New York were employed and Mr. W. E. Swift, '95, made a preliminary report on certain features of the situation. In 1920 a party of thirty men were sent from New York in which Tech had four men. The 1920 party was in charge of W. E. Spear, '97, and among his assistants were George Halkiopoulos, '19; A. N. Wardle, '15, designing engineers and the writer as locating engineer. The party made a complete design and report on water supply, distribution system, sewerage system, sewerage disposal, and sewerage and clear water irrigation.

They were in the field from March until September with forty or fifty Greek assistants. All survey work was done by stadia. Experienced rod men and instrument men were almost impossible to get, but a large part of the drafting was done by local men. They proved to be good workmen, but very slow, and the English characters bothered them when it came to lettering a plan.

The city of Athens needs additional water supply, as the present supply of water comes to the city through the old aqueduct built by Emperor Hadrian in the second century. The supply is inadequate and in most of the city is only turned on for two hours morning and afternoon. This does not provide sufficient for flushing the sewers which, during the very hot summer, have a decidedly bad odor even in the heart of the business district. The pressure is not sufficient to force it into the houses, so they provide a cistern into which the water runs from the pipes and from these cisterns it is manually pumped to tanks on the roofs of the houses. The poorer classes get their water in the old-style earthen jars or the very modern 'Standard Oil' gasoline can from the tap at the corner of the block. They usually know when the water is to be turned on and one sometimes sees eight or ten women and children standing around waiting for the event.

A bath is not the common thing that it is in this country and you can imagine the feeling, when you come in from a hot day's work in the dust and find that some one else 'beat you to it' and has used up all the water.

The Greek idea of waterworks is rather different from ours. They want a spring flowing enough water to at all times keep the pipes full so that all taps can be kept open. They have no idea of conserving water or stopping wastage. The smaller towns all have supplies as outlined above, but no water is piped into the houses. They do not look with favor on a supply of stored surface water and prefer the much harder spring water. The country is all limestone and the water from the springs is very much harder than would be used in the United States.

Much of the drinking water is brought to the city by private individuals from near-by springs and sold in none too clean jars. Most of the water for the port of Piraeus is brought by boats from one of the islands. A merchant in Piraeus told me that before the world war, wine was cheaper than water in Piraeus.

Our party reported primarily on the supply of a group of large springs located at the north slope of Mt. Parnassus, the water to be carried by an aqueduct 125 miles long into the city. The local people at the springs use the water for irrigation and of course, did not look on the project with great favor but they treated us nicely and all of the field survey parties found the country people kindly and friendly. Malaria is very prevalent and several of our men suffered from it. All of the local men employed were sick with it some time during the summer.

The English language is common there but French is more so especially in Athens."

Hervey J. Skinner has increased the size of his organization, the company now being known as Skinner, Sherman & Esselen. They have organized a corporation and are equipped to furnish counsel on all matters relating to the application of chemistry and biology to industrial operations.

Clarence B. Cluff has recently been elected president of the American Oil Chemists Society. This is an organization of chemists connected with the edible oil industry of the United States and includes about two hundred and seventy-five members, scattered all over the country. It is to a certain extent an auxiliary of the Interstate Cotton Seed Crushers Association, which is the trade organization of the cotton oil and other vegetable oil industries of the country.

1900

INGERSOLL BOWDITCH, *Secretary*, 111 Devonshire Street, Boston, Mass.

The Class will be glad to hear that Gibbs is in a position to assume the work of Class secretary and the future letters in the REVIEW should show great improvement. He travels a good deal and has a good chance to get news of our classmates. Let every man do something to encourage him in his work. The Class committee consisting of Wastcoat, Ziegler, Hurd, Bowditch and Gibbs is still the official organization of the Class and Gibbs is the executive officer. At his request, Bowditch will act as treasurer.

A letter has been received from Mrs. Tudbury telling of the death of her husband, Warren C. Tudbury, which occurred in California. His interests were many and during the war he was stationed at Washington and at Mare Island. The secretary has expressed to Mrs. Tudbury the sympathy of the Class.

Owing to the death of his father, Bowditch was unable to attend the inauguration of President Nichols and does not know what members of the Class attended.

Ziegler spent the seventeenth of June at Southwest Harbor, Maine. Neall went to his farm at Scituate to get it ready for the summer.

Professor Locke sends in the following announcement:

"William Leonard Stevens of the Class of 1900, who has been in South America for a number of years with the Braden Copper Co. has now left that company and entered the employ of the Caylloma Mining Co. at Casilla 180, Arequipa, Peru, as superintendent."

1901

HOWARD T. CHANDLER, *Secretary*, Hinckley Road, Milton, Mass.

The long-looked-for twentieth anniversary has passed into history. Certainly the stage setting was perfect in every detail, the weather was glorious, Wianno was at its best, and the hard-working Anniversary Committee had provided all the comforts to be desired. The program was entirely informal. The first day was a sort of general get-together day. The next day a number of the fellows disported themselves upon the golf links, while others sought their pleasure in different ways. The annual meeting of the Class was held during the evening of the second day. The third day passed all too soon. All present pronounced it a most enjoyable occasion and the hope was expressed that it might be made a regular annual event.

Robert White, Jr., since finishing some war work in the Ordnance Department, U. S. A., has been associate editor of the National Press Bureau and of the National Cyclopaedia of American Biography both located at 70 Fifth Avenue, New York City. He was in charge of their New England work during the winter of 1919-1920 and spent the winter of 1920-1921 travelling for them in the Southwest, Texas and California. His address when he is at home is 123 Washington Street, Grove Hall, 21, Boston, Mass.

At the invitation of Waldo G. Wilder, '01, vice-president of the Rochester Engineering Society of Rochester, New York, a talk was given by Frederick G. Clapp, also of '01, Tuesday noon, April 12, before the Society. The subject was "Engineering in China." Eighteen Tech men were present. The same evening a talk was also given by Frederick G. Clapp before the Rochester Historical Society on the subject "Explorations in China." These talks were both amply illustrated by lantern slides.

Clapp, under commission from the Canadian government, has covered Canada and produced an exhaustive report on its petroleum resources. His investigations for the United States Geological Survey and for others have covered many portions of this country

and thousands of miles, by horseback, of previously-unexplored regions in Northern China. Good for Clapp. Did any of us, twenty years ago, even in dreaming of the famous cane rushes ever expect to hear that the orange and black banner of '01 would be carried into such remote lands?

At the annual Class meeting held at Wianno, Mass., Tuesday June 7, F. R. C. Boyd was re-elected president. A. W. Rowe was elected secretary to succeed H. T. Chandler and V. F. Holmes, assistant secretary.

Changes in address have been received as follows:

Robert H. Brown, County Court House, Houston, Texas; John R. Brownell, 120 Broadway, Room 1046, New York City; Edwin P. Burdick, Cordova Apartments, 80 South Carolina Avenue, Atlantic City, N. J.; Frederick G. Clapp, 30 Church Street, Room 2025, New York City; Willard W. Dow, care Montgomery Ward & Co., Chicago, Ill.; Dennis F. Haley, P. O. Box 721, Joplin, Mo.; Horace E. Hildreth, Suite 305-6, Sears Building, Boston, Mass.; Albert W. Higgins, 111 West Monroe Street, Chicago, Ill.; Henry C. Marcus, 1040 Lombard Street, San Francisco, Calif.; Stuart B. Miller, care E. I. du Pont de Nemours Co., Louviur, Colo.; John M. Perkins, care McNab & Harlin Manufacturing Co., Paterson, N. J.; George Victor Sammet, 11 Elkins Street, South Boston, Mass.; Frederick W. Smith, 809 Union Bank Building, Cleveland, Ohio; John A. Trott, care United Lead Co., 111 Broadway, New York City; Asher L. Weil, 161 Washington Street, New York City; Louis E. Williams, 1183 Clark Avenue, Detroit, Mich.

It is with deep regret that we learn of the death of another one of our members, C. W. Cade, who passed away January 22.

1902

FREDERICK H. HUNTER, *Secretary*, Box 11, West Roxbury, Mass.

BURTON G. PHILBRICK, *Assistant Secretary*, 585 Boylston Street, Boston, Mass.

Lombard, Haskell, Doc Williams, Miss Bates and the Class secretary were present at the inauguration of Dr. Nichols on June 8. Probably other classmates were present, but the secretary did not spot them. At the banquet in the evening the turn-out included Haskell, Kellogg, Lombard, Patch, Ritchie, Thompson, Usher, Williams and Hunter. Dr. Nichols made a very favorable impression on both occasions by his brief, pithy addresses. The feature of the evening for those classmates who gathered was the presence of Al Lombard, our first Class president. It is the first time that Lombard has been in Boston since graduation. A business trip east worked out so that he was able to take in the exercises of Inauguration Day, but he had to leave that night on his return trip. Lombard is now located in Pasadena, California, at 1195 Erie Street.

Phil Whitney — we have hard work to call him "Professor" — of the University of Pennsylvania sends the program of the 30th anniversary of the founding of the Department of Architecture at the U. of P. The principal address was made by C. Howard Walker, whom all Course IV men will remember, and who received on that occasion the degree of Doctor of Fine Arts. — Milliken is with the By-Products Recoveries, Inc., 328 Seventh Avenue, New York. — Bert Sherman tells us that the new firm of Skinner, Sherman and Esselen whose organization we noted in the last issue of the REVIEW, is getting away to a good start, and that Burt Philbrick is one of the firm although his name does not appear in the title. — Robinson delivered an address at the Convention of the National Educational Association in Atlantic City last March on "Safety to Life in Schoolhouse Planning." Burt Philbrick, who attended as representative of the Salem school board, reports that the address made a most favorable impression.

Our Class president, Arthur Nickerson, is removing his residence to New York where he is taking up more extensive duties with the American Agricultural Chemical Company. He will have oversight of the engineering and construction work, while he turns over the details of this department, of which he has been the head for a number of years, to his assistant, A. B. Arnold, '07. We shall miss "Nick" in Boston, but trust that our loss is New York's gain.

Westward the course of Geromanos takes its way — our travelling member has reported with a string of most attractive postals from Australia, India, Egypt, Palestine,

Constantinople, Algeria, Spain, southern France, Italy, Switzerland, and the last card dated May 26 from Paris told that Gerry and his family were leaving next day for Brussels. All the brief messages tell of good health and a most enjoyable trip. Gerry is expected back in the fall.

Arthur Childs was found dead in his camp at Greenwater Pond, East Lee, Mass., on April 26. Childs, who had been in poor health, was living alone at his camp, which at that season of the year was very much isolated. The people from whom he bought milk became alarmed at his not appearing, and investigating the matter, found his body. The Medical Examiner pronounced the death due to natural causes following an attack of acute indigestion. Childs, who was a Course IV man, had been engaged in civil and structural engineering in Pittsfield and Lee ever since his Tech days. Part of the time he was connected with the General Electric Company plant at Pittsfield. On the first of January last he had opened an office of his own in Pittsfield as civil engineer. During a lull in business he was spending some time at his camp in an effort to improve his health.

 1908

E. J. RUXTON, *Secretary*, 92 Marengo Park, Springfield, Mass.

No report has been received from the secretary.

The following news item from the assistant secretary, Chester S. Aldrich, will be of interest to the Class:

"Saw Jim Doran the other day in the Grand Central, New York. He was headed for Danbury looking as prosperous and curly headed as ever, and wearing the same genial smile as in the old days. Evidently he has not yet repented his war profits, although he admits them, but we trust the Internal Revenue Department will eventually convert him.

From the *Tribune*, Providence, R. I., April 17, 1921:

"F. B. Jewett, chief engineer of the Western Electric Company, who is one of the best known telephone engineers in the United States, has been elected to be a vice-president and director of his company. He will continue his present duties in charge of the technical forces of the great telephone manufacturing industry.

Doctor Jewett's connection with the commercial telephone world dates from September, 1904, when he became transmission engineer for the American Telephone and Telegraph Company. While acting in this capacity, the loading of eight gauge circuits was perfected; phantom cables and phantom loading for open wires and cables were developed; the New York to Denver circuit and line was engineered and also the Boston to Washington underground cable. In April, 1912, Dr. Jewett became assistant chief engineer of the Western Electric Company in charge of all development and research work. He has been chief engineer since 1916. Dr. Jewett was an advisory member of the Special Submarine Board of the Navy and contributed much toward the perfection of devices for detecting hostile submarines. The perfection of wireless telephony is one of the most startling undertakings completed under his direction.

Colonel Jewett is a member of the Machinery, Engineers and University Clubs of New York; University Club of Chicago; Cosmos Club of Washington; is a former vice-president and fellow of the American Institute of Electrical Engineers; a member of the Council of the American Physical Society; director Telephone Society; a member of the National Academy of Science; a trustee of the Engineering Foundation; a member of various committees of the National Research Council, and many other clubs and institutions. He is the author of many brochures, and published addresses on physical and electrical subjects."

 1904

HENRY W. STEVENS, *Secretary*, 12 Garrison Street, Chestnut Hill, Mass.

No report has been received from the secretary.

The following news item from the assistant secretary, A. M. Holcombe, will be of interest to the Class:

"At the annual dinner of the Washington Section of the American Society of Mechanical Engineers, at which representatives of the other engineering and scientific societies

in Washington were present as special guests, the principal topic for discussion was the creation of some means for closer affiliation of the local engineering and scientific societies. R. B. Sosman spoke, representing the Washington Academy of Science; E. A. Holbrook spoke, representing the Institute of Mining Engineers; and A. M. Holcombe spoke for the Society of Mechanical Engineers. Sosman is physicist at the Geophysical Laboratory at the Carnegie Institute; Holbrook is Chief of the Metallurgical Division of the Bureau of Mines; and Holcombe is again practicing patent law with his offices in the Washington Loan and Trust Building, so '04 is maintaining its reputation for being among the leaders."

1905

GROSVENOR D'W. MARCY, *Secretary*, 246 Summer Street, Boston, Mass.

CHARLES W. HAWKES, *Assistant Secretary*, 246 Summer Street, Boston, Mass.

We did not plan any special reunion stunts this year, and while several of the men took in some of the commencement exercises we were represented by only eleven men at the inaugural dinner. These were:

Fisher, Steel, Donald, Damon, Lewis, Marcy, Kieth, Tufts, Fouhy, Strickland and Dissel. About the same number showed up at the Pop Concert that night.

James F. Fouhy writes as follows from the Technology Club of New York:

"Am sending you a few words for the REVIEW. My work of valuing the property of the Standard Oil Company of California is completed and am now in consulting practice handling designs, supervision, investigations, valuations and management work. Am also the New York representative of Smith Insurance Service Inc. of Boston, an organization of specialists selling insurance advice, not insurance. We expect to repeat in New York our very successful New England business. My address is 1018 47th Street, Brooklyn, but my heart is still in the great open West."

Jim Barnes has recently sent a postal as follows:

"Too busy to write and no news anyway. Am working pretty hard and hoping for real results which is of course not now. Like Louisville very much but regret there's not more M. I. T. activity among the alumni here. The Class boy is fourteen years old and six feet tall and that's about all there is to our news from here."

While Tarbett calls your secretary to account for giving him a new address instead of printing a news item about his new work, the following letter was received June 7:

"I wonder where in the world you ever got my address as 911 Peoria Life Building, Peoria, Ill. That is headquarters for some new work we are starting on the Illinois River which is under the direction of Associate Sanitary Engineer Hoskins. I am still at Third and Kilgour Streets, Cincinnati, Ohio, in charge of the field station and headquarters station for stream pollution studies, and haven't any news.

With best regards, R. E. Tarbett, Associate Sanitary Engineer, In Charge."

William C. Pickersgill sends in the following post card:

"I left Houston, Texas, where I had been located since May, 1919, and returned to Providence early in March. Have hung out my shingle and shall endeavor to make an honest living in engineering in New England. Business conditions were rather better in Houston than they are here but the death of my father made it necessary for me to return. Had a very pleasant chat concerning old times at Tech with C. H. Manter, Architect, at Springfield, recently. Manter, I believe, started in with '05."

The Alumni Office has sent us new addresses as follows:

Mr. Roy H. Allen, Cambridge, N. Y.; Mr. Carlton E. Atwood, 9 South Kensico Avenue, White Plains, N. Y.; Mr. Philip G. Darling, Manning Maxwell & Moore, Bridgeport, Conn.; Mr. Fred W. Guibord, 210 South Street, Boston, Mass.; Mr. Louis J. Killion, care Monks & Jonson, 50 East 42d Street, New York, N. Y.; Mr. Charles B. Mayer, 727 Lemcke Building, Indianapolis, Ind.; Mr. William C. Pickersgill, 1030 Grosvenor Building, Providence, R. I.; Mr. George G. Wald, P. O. Box 1085, Phoenix, Ariz.; Mr. Frederick C. Wales, Chazy, N. Y.; Mr. Ralph E. Tarbett, Third and Kilgour Streets, Cincinnati, Ohio.

If any one can give the present address of the following kindly send the information to the Alumni Office at once: Patrick J. Sullivan and John F. H. Douglas.

1906

J. W. KIDDER, *Secretary*, 50 Oliver Street, Boston, Mass.E. B. ROWE, *Assistant Secretary*, 92 State Street, Boston, Mass.

The 1906 fifteen-year reunion was held at the Oswegatchie House and Cottages, Waterford, Connecticut, June 23 to 26 inclusive, with a total attendance of twenty-three men. Eight men arrived Thursday. These included Percy Tillson and Herb Terrell who came over the road from Philadelphia with Nat White; Andy Keleher and Charley Howard who drove from New York and Henry Ginsburg who motored down from Boston with Herbert Ball and Jim Kidder.

The first five men were given quarters in the Ames cottage which was located on the river bank near the hotel, while the three Boston men were located in the Mayfair cottage down the road leading to the main house. The '06 banner was displayed in front of the latter cottage, thus making it the official headquarters, although the crowd in Ames cottage insisted headquarters was there. As a matter of fact, the more attractive location of the Ames cottage caused the men to gather there when there were a few minutes to spare.

Friday morning events started with a swim at 7.30. About breakfast time Stuart Coey and Charley Breitzke arrived by train, having made New Haven the previous night. The golfers, viz., Ball, Howard and Breitzke, went over to the Griswold to spend their day at their favorite sport, while the rest of the crowd repaired to the tennis courts. During the morning Charlie Wetterer arrived, having come over the road from Boston and Abe Sherman motored down from Fitchburg. After tennis the crowd went in for the second swim of the day, enjoying the wonderful bathing facilities, not to mention the diving exhibitions and display of fancy strokes. In the afternoon all but the golfers went over to see the Harvard-Yale boat race.

We were very fortunate in getting on a small steamer which chose a very favorable location for the finish of the race. The steamer took its position an hour before the race started but the time was spent pleasantly in admiring the wonderful display of pleasure craft and in watching fast motor boats speed in and out among the larger vessels. On account of the direction of the wind we hoped to hear the starting gun; this was not possible, however, and we were only aware of the approach of the shells by the movement of the observation trains. We had a fine view of the race for the last mile or two and were very near to the final quarter. Yale was leading when the shells first became visible and held the lead until the finish, although Harvard drew up at the end. The race was extremely close and as it was the first Harvard-Yale boat race most of us had seen, we congratulated ourselves that it was such a good one.

While at dinner at the hotel that evening a telephone call was received stating that Ralph Patch and Harold Coes had arrived on the five o'clock train from Boston and were waiting at the station to be taxied to Waterford. They were advised that the crowd were just in the midst of dinner and were asked to wait a little while; the dinner progressed slowly, however, and by the time Charlie Wetterer and Stuart Coey got over to New London, Patch and Coes thought we had forgotten all about them and, as near as we can make out, they did not greet their taxi in the proper spirit. The grouch had not entirely disappeared when they got to the hotel and they registered a vigorous protest to the secretary about the taxi service. As the evening wore on, however, the beautiful location, the presence of good natured '06 men, and the jazz dancing at the Casino made them feel better and it is thought that they secretly repented of being so impatient.

Friday night, Everett Darling, George Furness, Burton Kendall and Herb Whiting arrived and while the crowd were at the boat race Raymond Philbrick came down from Hartford and Sam Nash arrived from Springfield, thus making a total of twenty men on hand that evening.

After dinner Friday some of the crowd tried out George Furness' new Wills-St. Claire while the rest sat around the piazza and chatted over old times, later adjourning to the Casino where they enjoyed the *soft* drinks and *watched* the dancing.

Saturday's program was not unlike Friday's. The golfers on this day were Wetterer, Howard, Whiting, Coes, Ball and Breitzke. They departed soon after breakfast and were instructed to report at 1.30 when there was to be a special luncheon in the Casino. The rest of the crowd played tennis and, after getting sufficiently warmed up, went in for the second swim of the day. Luncheon hour arrived with no golfers. After a brief wait, a telephone message was received stating it would be impossible for them to get off in time.

This gave those present at the luncheon an opportunity to appreciate the meaning of the term "golf widow."

After lunch, the early part of the afternoon was spent in various ways from siestas to chatting on the piazza of the Ames cottage, but more tennis was enjoyed later to get in condition for the third swim of the day. During the afternoon Pete Stanley and Ernest Smith blew in from New Britain and Otto Blackwell arrived on the Knickerbocker from New York. It can be stated that, after the experience of the previous evening, the taxi was ready for Blackwell the minute he got off the train.

Saturday night the crowd all gathered on the piazza of the Ames cottage and spent the time in chatting, etc. The opportunity was taken to discuss one or two matters of interest to the Class, viz., the question of Class dues and the Class contribution to athletics. It was agreed that the Class dues be increased to \$2 a year and that the Class should subscribe \$50 annually to the support of athletics at the Institute.

After the gathering at Ames Cottage, the crowd repaired to the Casino and watched the dancing.

Sunday morning the pleasant weather which we had enjoyed the two previous days seemed to have departed for it rained hard. Before the storm a few pictures were taken and it is hoped to have some of them in a later issue of the REVIEW.

The crowd began to disperse shortly after breakfast and practically all had left by Sunday noon.

In departing all agreed that the reunion had been very successful and expressed the hope that another might be held at the same place within a year or two.

SIDELIGHTS ON THE REUNION

The fifteen years since graduation seemed to have passed lightly over the heads of those present. Aside from loss of hair, or gain in weight, the crowd looked about the same as in the old days.

The secretary admits two serious defects in the arrangements. The first was the slow taxi service for Harold Coes and Ralph Patch, and the second was not having a golf expert cover the matches. It is understood that Charley Howard had the best card the first day and Herbert Ball the second. Herbert Ball raised a fine crop of blisters Friday but taped them up and was low man Saturday. Two rounds of eighteen holes were played each day. Rumor has it that the scattering of sand when Herb Whiting and Harold Coes got caught in the sand traps was not unlike a couple of steam shovels in operation.

The swimming was one of the most enjoyable parts of the outing. Seven swims were enjoyed between Friday morning and Saturday morning. The combination of diving board, raft and warm salt water left very little to be desired in this line. At the Saturday afternoon swim Ernest Smith suggested a cigar for the man who could stay on the float the longest. This was overheard by Steve Coey, who was swimming nearby. He made for the raft and bowled the secretary and Harry Ginsberg into the water, but was thrown over himself by the combined efforts of Ralph Patch and Ernest Smith. These two then became locked in a final struggle and were only separated by rolling into the water together. Stewart Coey carried off the honors in the tennis matches.

Herb Terrell seemed to be pretty well used up by the two hundred and forty mile ride from Philadelphia, and went to bed early Thursday night. He was unable to get up again all during the outing, but felt well enough on Sunday to start for home by train accompanied by Percy Tillson.

When in New York last April the secretary ran into Carl Emerson who is now the New York representative of the Standard Conveyor Company, offices at 227 Fulton Street.

The marriage of Malcolm Wight to Miss Emma A. Morrill took place on Sunday May 1, at St. Andrews Church, Wellesley, Mass. This is Wight's second marriage, his first wife having died during the influenza epidemic which occurred several years ago.

A card has been received announcing the opening of a Philadelphia office by the well-known engineering and management concern of Ford, Bacon & Davis of New York. This is of interest to '06 men as Harold Coes has been appointed manager of the new office.

Cards have been received from the Alumni office recording the following deaths: Arthur K. Adams, III, died November 2, 1920. Juliet C. Patterson, V, died October 14, 1920. Arthur P. Watt, III, died December 29, 1920.

It is to be regretted that the secretary is unable to furnish further details in connection with these notices.

1907

BRYANT NICHOLS, *Secretary*, 2 Rowe Street, Auburndale, Mass.

HAROLD S. WONSON, *Assistant Secretary*, care W. H. McElwain Co., Manchester, N. H.

Practically nothing in the way of news regarding members of the Class during the past three months. A letter from Parker Dodge on June 1 announces his correct mail address as 405 Cumberland Avenue, Chevy Chase, Maryland, and also states that he and Mrs. Dodge now have "two 100% Techlets, John P. about two and one-half years old, and Frances, ten months." Parker says, "We live in Somerset, and can be found in the Washington telephone book, and I hope any '07 visitors to Washington will look us up."

Anthony B. Arnold, II, has been appointed chief engineer of The American Agricultural Chemical Company, and is now located at that company's principal office, 2 Rector Street, New York City. Arnold has been with the above company since his graduation from M. I. T.

We have the following changes of address: S. G. Emilio, 5 Oliver Street, Salem, Mass.; Henry C. McRae, Route 1, No. 39, Bartow, Florida; C. J. Traverman, care Masterson Brokerage Co., Lewistown, Montana; Arthur K. Tylee, 41 Butler Road, Quincy, Mass.; William L. Woodward, 12907 Clifton Boulevard, Cleveland, Ohio.

1908

RUDOLPH B. WEILER, *Secretary*, care of Sharples Separator Co., West Chester, Pa.

LINCOLN T. MAYO, *Assistant Secretary*, 181 Massachusetts Avenue, Boston, Mass.

The engagement is announced of Harold H. Howland, of Boston, to Miss Alma Renno, of Washington, D. C., also that of John R. Thorndike, of Boston, to Miss Caroline Lydia Wyeth, of New York.

From the *Times*, Hartford, Conn.:

H. W. Griswold, I, chief assistant in the engineering department of the Hartford Water Works, was elected vice-president of the Connecticut Section of the American Society of Civil Engineers, at the annual meeting of the organization at the University Club. Mr. Griswold is a Hartford man and was graduated from the West Middle School, the Hartford High School and Massachusetts Institute of Technology. He was in the service of the United States Government for several years prior to his return to Hartford.

Mr. and Mrs. J. Roe Young announce the marriage of their daughter Hellyn, to William F. Grimes, Jr., on Saturday, June 11, at Balboa, Canal Zone. Mr. and Mrs. Grimes will be at home after July 1 at Aucon, Canal Zone.

NEW ADDRESSES

LeSeur T. Collins, 160 Broadway, New York City; George H. Pierce, 5524 Iowa Street, Chicago, Ill.; Lincoln T. Mayo, 181 Massachusetts Avenue, Boston, Mass.; George C. Lees, 541 North Charlotte Street, Pottstown, Pa.; Harold P. Gurney, 199 Strathmore Road, Brighton, Mass.; Lynn S. Goodman, 36 Boulevard Terrace, Allston 34, Mass.; Jacob A. Fottler, 144 Washington Street, Wauwatosa, Wis.; Joseph F. Florentine, Jr., 530 Postal Telegraph Building, Chicago, Ill.; Alexander M. Emerson, 45 Bromfield Street, Boston, Mass.; Amos H. Dows, 29 Whitney Avenue, Lowell, Mass.; Robert Amory, 48 Franklin Street, Boston, Mass.; Comdr. Paul H. Fretz, 104 Grant Road, Mountain View, Calif.; Harry L. Burgess, American Telephone and Telegraph Co., 195 Broadway, New York City; Arnold W. Heath, 23 Forest Street, Wellesley Hills, Mass.; Stiles F. Kedy, 24 Sagamore Street, Dorchester, Mass.; Charles L. Lufkin, Interstate Cotton Oil Refining Co., Sherman, Texas; Rens E. Schirmer, 15 Duncklee Street, Newton Highlands, Mass.

1909

CHARLES R. MAIN, *Secretary*, 201 Devonshire Street, Boston, Mass.

GEORGE A. HAYNES, *Assistant Secretary*, 530 Atlantic Avenue, Boston, Mass.

Starting chronologically from where we left off at the previous issue, the Class has been leading an active life. Two noonday lunches in April and May, with an average attendance of eight rounded out the season.

On April 29 the New York bunch got eight men together at the National Arts Club, where a most enjoyable evening was spent. Wiswall entertained us with some interesting photographs which he had collected during his extended visit around the world, and equally interesting was the informal and extemporaneous account of his personal experiences. Those present were Pope and Whitaker, who staged the affair and A. L. Matte, Ballard, Wiswall, Schaeff, Belcher and Main. It is hoped that this may be the first of a number of such meetings.

A number of the men attended the inauguration, which, by the way, was a delightfully well-arranged program, followed by the inauguration dinner in the evening. At the dinner we had the pleasure of Miss Luscomb's company at our table as well as that of Clarke, who is with the Chile Exploration Company at Chuquicamata, Chile, but now on an extended vacation, and Captain Harrub, who is stationed in Nashville, Tenn. Harrub is assisting the State Boards of Health of Tennessee, Kentucky and Mississippi, in organizing a sanitary engineering division. E. Q. Adams, who is now with the Nela Park Laboratory at Cleveland, was also on for the inauguration. Loud, Perry, Kyle, Gram and Main from Boston made up the balance of our Class representatives.

On June 10 to 12 the annual outing was held at the Riversea Club, Old Saybrook, Connecticut, with a total of fourteen in attendance. Among those present were Adams, Belcher, Clarke, Davis, Dawes, Emerson, Finnie, Fisher, Marshall, Millard, Parker Temple, Thornley and Whitaker. Friday evening was spent in talking (which included several "parlor" stories) and renewing old friendships.

Two fairly good tennis courts were available directly in front of the Club and across the road. On the other side of the courts, there is a fine nine-hole golf course which several of the fellows played on and pronounced it to be an excellent course. Most of the day was spent in that way and the fellows thoroughly enjoyed it. As usual, John Davis carried off the honors in tennis and H. I. Emerson was the expert at golf. Chet Davis also played some in both games. A motor boat trip to Long Island had been planned for Saturday evening, but when it was discovered that the skipper apparently thought we should buy the boat instead of hiring it, we decided to stick to the clubhouse. That evening there were two card games going on in the clubhouse — a *big* game upstairs and a smaller one downstairs. Between the two, most everybody was busy and happy. Harry Whitaker thought that his bed made one of the most popular and spacious card tables that he'd seen in a long time.

Sunday A.M. everybody got up early and went to Church! The party broke up after dinner Sunday. The consensus of opinion was that it was the best place we had ever selected for an outing. It is truly a delightful place in every respect. Some of the "regulars" were unable to attend this year, but as Carl Gram put it, they were all no doubt there in "spirit", if not in person.

Harold Sharpe is now associated with the Hallett-Grant Construction Company, contractors and engineers, with offices at 136 Federal Street, Boston. — Doc Lovewell reports the birth of a son, John Sherman, on May 15, 1921. Congratulations, Doc. — Harry Putnam, associated with Lockwood, Greene & Company, has gone to South America on an extended business trip.

Captain and Mrs. Osmyn Berry of Arlington, Mass., announce the engagement of their daughter, Miss Hazel B. Berry to William S. Gordon, Jr. Miss Berry is a graduate of Wheaton College, 1917, and during the war was engaged with the Young Women's Christian Association in hostess house work. Gordon is located in New York City with the General Bakelite Co.

The secretary was glad to receive a cheerful letter from "Steve" who is editing the *Pulp and Paper Magazine* with headquarters at Gardenvale, P. Q., Canada.

Steve writes as follows:

"On looking over the Class news in the last REVIEW, what conscience I have left

was pricked by the scarcity of items. Hence the following: The enclosed is not sent with the idea of publication, but it may interest you to see the evidences that J. Harvey apparently intends to follow engineering. At twenty-two months he is a little too handy with the hammer for the good of floors, furniture and windows. He is not building the brick wall shown in the picture but endeavoring to wreck it. You can see how hard he works by the holes in his overalls. (Photograph of J. Harvey enclosed.)

I was glad to meet Harry Whitaker at the Pulp and Paper Convention in April and learn that he is doing work occasionally connected with the industry. I meet Tech men everywhere who are in the pulp and paper game, but not many in our Class seem to be among them.

I see Ned Wells occasionally and expect him and his family for a week's visit here in Ste. Anne in June. They are living in Montreal, where Ned is exceedingly busy superintending the activities of the John Cowan Co., manufacturers and distributors of chemicals. He is building a new house across the river from Montreal. This will accommodate his family, which now includes twin girls about two years old.

There is not anything new personally except that the first two columns of the set of five dealing with the manufacture of pulp and paper are now in print. This work is being prepared under the auspices, and at the expense, of the pulp and paper industry of the United States and Canada. I am simply the editor-in-chief and my job is to get other fellows to do the work. The first volume includes arithmetic, mathematical applications, how to read drawings, and elements of physics; the second, mechanics and hydraulics, elements of electricity and elements of chemistry. This will provide the ordinary mill man with the essential fundamentals in mathematics and science which he should have in order to understand the discussion of equipment and manufacturing processes. The other three volumes are in sections, each written by the best men available on the various phases of pulp and paper manufacture. Part of the third volume which covers the manufacture of pulp is now in the hands of the printer and this volume is being pushed as rapidly as possible with the idea of having material available for the use of evening classes in the fall. The matter is prepared also with a view to its being largely used as a basis for correspondence instruction. In fact the whole project grew out of the activities of the Committees on Education for the Technical Sections of the Pulp and Paper Associations.

The books are being published by the McGraw-Hill Book Company, at 370 Seventh Avenue, New York City, and are on sale at \$5.00 each.

We are always very glad to have visits from Tech men and if any of the fellows get to Montreal with twenty cents in their pockets, a telephone to Ste. Anne de Bellevue, 145, will be greatly appreciated."

The address of Alice Freeman Walmsley is 1801 Eye Street N. W., Washington, D. C. The following is part of a letter which she wrote to the *Wellesley Record*:

"The only distinctive thing to relate about me is that I was the last Young Men's Christian Association canteen worker in France, stayed in rest for three months after I had waved farewell to the last of the American Army leaving by land and sea. The navy and Graves Registration civilians remained to be ministered to. I mention this to offset the fact that I didn't get over until after the armistice.

Now I am in charge of a Woman's Club in Washington where girls who work in the Red Cross offices live and eat and entertain. Running beautiful big buildings that look like elegance and extravagance as homes on simple life budgets seems my real job in life and is a truly feminine occupation."

Lloyd Champlain Eddy has been teaching junior and senior engineering in the electrical engineering laboratory at the Georgia School of Technology, a branch of the University of Georgia. His mail address now is R. F. D. 154, Barrington, R. I.

1910

DUDLEY CLAPP, *Secretary*, Gloucester, Mass.

The inauguration dinner on June 8 was pretty well attended by 1910 men. Those present were: Charlie Green, Berg Reynolds, J. P. Wentworth, Eldon Clark, E. K. Jenckes, Ralph Beals, Herb Cleverdon, Jack Babcock, Gorton James and the secretary. Everybody is talking hard times but the gang seemed prosperous enough. Jenckes suggested that

we all had our Sunday suits on and might not look so prosperous in our regular clothes. A few more of the Class were at the Pops, but say, isn't that a pink tea affair nowadays?

Our friend Carl Sit has gone and went and done it, as per the following: "Mrs. Olive H. Dodge announces the marriage of her daughter Evelyn to Mr. Carl Joseph Sittinger on Wednesday, the first of June, 1921, at Lowell, Massachusetts. At home after July 15, 383 Madison Street, Fall River, Mass."

Ralph M. George, VI, who is an oil producer, and Mary B. Von Storch, both of Bradford, Pa., are coming all the way to Boston from their Pennsylvania home that they may be married in the historic Old North Church on Salem Street. The wedding is to take place the first of June.—*Boston Herald*.

The following from Philip G. Laurson came just too late for the last REVIEW:.

"Sometimes when the TECHNOLOGY REVIEW comes around I wish the men of 1910 were more inclined to scribble some news. The last time I wished this, it occurred to me that I am as guilty as any one, so here goes.

I will try to tell something about 1910 men that I have seen recently, including myself. I have gotten out of engineering practice into an assistant professorship in engineering mechanics at Yale. It is just as big a job as engineering outside of college and keeps me about as busy. If it weren't for the Easter vacation I wouldn't have time to write this. Mrs. Laurson and I like New Haven pretty well.

I find four classmates here. Floyd Pitcher has recently been made assistant engineer of structures of the New Haven Railroad. J. M. Fitzwater is manager for the Mack Motor Truck Company in this region. Chester Dunlap is manager of the Kolynos Company. Think of him when you brush your teeth the next time. R. R. Taylor is with the United States Rubber Company in the New Haven plant.

There is quite an active Technology Club here and we recently had a dinner followed by bowling, shooting, and other forms of entertainment. The 1910 men were on two opposing bowling teams. Fitz made the highest score and I distinguished myself by making the lowest score. Fitz took Pitcher and me home in his Cadillac after the fun was over. There were forty Tech men at the dinner.

I will end up by telling about some of the 1910 men that I have seen or heard from recently. A. B. Merry has recently joined the sales force of the H. H. Robertson Company of Pittsburgh. He is located in Cleveland, Ohio. He was married in 1918 to Miss Mildred MacAfee of Cleveland. John Ahlers is vice-president and treasurer of the firm of Barney & Ahlers, contractors for New York City. I think they are very successful. You can see their ad in the New York Times frequently. Bill Orchard is manager for Wallace & Tiernan, manufacturers of chlorinating apparatus. It is a firm of Tech men and Bill is making good. I heard from Harold Cummings last fall. He is professor of engineering in the Newark, N. J., Institute of Technology. I hope to hunt him up some day. I have occasionally run across other 1910 men, but can't tell very much about them. Among these were Shaffer, who is with the Johns-Manville people, I think, and Parsons, who is around Philadelphia, I believe, in business for himself.

Well this is some letter for me to write and I will knock off. I hope other 1910 men will come across."

H. G. Reynolds writes from New York:

"I have just picked up the April issue of the TECHNOLOGY REVIEW and am sorry to see there aren't more notes from fellows in our Class. I am going to do my bit by dropping you a short line.

I am still very busy as factory superintendent for Wallace & Tiernan Co. The first of the year we moved our plant from New York City to Newark, New Jersey, and my address is now, care of the above company, Newark, New Jersey.

You are not the only one who has been made happy by the advent of a new arrival. Ann Reynolds arrived as a valentine on February 14; so that I now have a boy five years old and a small daughter.

I see very little of the old crowd with the exception of Bill Orchard who, as you undoubtedly know, is sales manager of our company. If any of the crowd are, at any time, in Newark, Bill and I would both be very glad to see them.

Can you give me any information as to the present address of Ernest Redman? The last I knew he was in the aviation service but have not been able to get any definite information as to where he is at present. If you should publish this letter and he sees it I hope he will write."

The *Courant* of Hartford, Connecticut, publishes the following notice of a lecture by Curtis M. Hilliard:

Prof. Curtis Morrison Hilliard, head of the Department of Biology and Public Health at Simmons College, will speak on the "New Era of Public Health," at a meeting to be held under the auspices of the juvenile commission on Tuesday evening, May 3, at eight o'clock in the city court room of the Municipal Building.

Professor Hilliard is a graduate of Dartmouth College, and has done special and advanced work in public health at the Massachusetts Institute of Technology.

As executive secretary of the Simmons College Endowment Campaign he has spoken before many large gatherings, and is a well-informed, interesting speaker on this very vital subject — public health.

1911

ORVILLE B. DENISON, *Secretary*, 63 Sidney Street, Cambridge 39, Mass.

JOHN A. HERLIHY, *Assistant Secretary*, 1028 Middlesex Avenue, Medford, Mass.

Announcement is made herewith by the secretary of the appointment of "Jack" Herlihy as assistant secretary. Located right here in the immediate environs of the Hub he has always maintained a lively interest in things pertaining to Technology and 1911 and the secretary looks forward to receiving lots of assistance from him.

At this writing the ten-year reunion of the Class is less than a week off and everything seems set for a bang-up good time with more than fifty in attendance. In the post-script notes there will be a detailed account of what actually happens, so no space will be taken here to tell of the preliminary plans. Probably the forthcoming reunion was the cause of the attendance of only five elevens at the inauguration dinner in the Walker Memorial on the evening of June eighth. George Cummings, Carl Ell, Harry Lake, Otto Meisel and "Dennie" were there, the latter at the head table in the role of cheerleader.

Mr. and Mrs. "Bill" Pead are rejoicing in the arrival of Barbara Netta on March 29. "Cupid" has been rather busy adding to the ranks of 1911 benedicts this June. On June fourth three of the faithful went double — Minot Dennett, Jim Duffy and R. E. Morse. A week later, on June 11, Odie Powell went and done it. Here are the respective announcements:

Mr. and Mrs. William J. Fielding announce the marriage of their sister, Vera Slater Greene to Mr. Minot Savage Dennett on Saturday, the fourth of June, Detroit. At home after the first of July, 1196 Lawrence Avenue. — Mrs. Mary E. Powers requests the honor of your presence at the marriage of her daughter, Blanche Catherine, to Mr. James Francis Duffy on Saturday, June the fourth, Worcester.

The *Boston Transcript* said on June fourth:

In All Saints' Church, Great Neck, Long Island, Miss Margaret Daniels, daughter of Mrs. Clara H. Daniels and the late Lieutenant David Daniels, United States Navy, is to become late this afternoon the bride of Robert E. Morse, son of Philip S. Morse of Boston. Rev. K. Huske will perform the ceremony and the bride will be given in marriage by her cousin, Dr. Hardy Phippen, of Salem, and will be attended by Mrs. E. S. Pratt of South Orange, N. J., as matron of honor, also by Mrs. Theodore Preble of New York City, Miss Louise Hyde, of Great Neck, and Miss Laura Morey of Dansville, N. Y. Mr. Morse will have for his best man Carl H. Brubaker, of Passaic, N. J., and the ushers are Dr. Sterne Morse, Reed W. Hyde, Hugh MacNair and Hilton Wilkes, of New York City. The ceremony will be followed by a reception at the home of Lieutenant Colonel and Mrs. Arthur S. Dwight, on the West Shore Road at Great Neck. After a motor trip of a few weeks, Mr. and Mrs. Morse will live at 114 Autumn Street, Passaic, N. J.

The wedding of Dorothy Payn and Oliver Davis Powell occurred in Unity Church, Oak Park, Illinois, on Saturday evening, the eleventh of June. The couple will be at home after the first of September in Auburn, New York. Heartiest best wishes are hereby extended to the four happy couples.

Then, too, Pete Gaillard comes to time with the following:

"Mrs. Dolos A. Blodgett of Washington, D. C., announces the engagement of her

daughter Mona to Captain David St. Pierre Gaillard, U. S. A. No date has been set for the wedding."

Here is the story of our second Ladies Night, held on the eleventh of April, as told in *The Tech*:

SECOND ANNUAL 1911 LADIES' NIGHT

By a strange coincidence, there were eleven couples present at the second annual nineteen-eleven ladies' night at the Walker Memorial, Monday evening, the eleventh. The total of the party was raised to twenty-five by the presence of three "lone gentlemen."

After a splendid dinner in the faculty dining-room the meeting was called to order by the secretary, Dennie, and John A. Herlihy, chairman of the 1911 ten-year reunion committee acted as leader in a discussion of the entertainment features of the forthcoming reunion at the Mayflower Inn, Manomet Point, June 16 to 19, inclusive. The eleveners are making a step in advance through their decision to include the ladies in the party and a number of excellent suggestions were received by the committee.

At nine o'clock the party adjourned to the bowling alleys where an hour's bowling was enjoyed. "Clark's Clouters" beat "Bigelow's Beauties" and had the high string of the evening. In the other match "Dennie's Daisies" beat "Stewart's Stoopers." The scores:

<i>Clark's Clouters</i>		<i>Bigelow's Beauties</i>		<i>Dennie's Daisies</i>		<i>Stewart's Stoopers</i>	
Mr. Tisdale	55	Mr. Haines	66	Mrs. MacPherson	69	Mrs. Comstock	62
Mrs. Tisdale	65	Mrs. Herlihy	39	Mr. Denison	69	Mr. Hall	60
Mr. Richmond	67	Mr. Whitcomb	55	Mrs. Seligman	74	Mrs. Hall	24
Miss Richmond	73	Mrs. Haines	71	Mr. MacPherson	84	Mr. Comstock	75
Mr. McManus	84	Mr. Herlihy	89	Mrs. Denison	62	Mrs. Stewart	61
Mr. Clark	101	Mr. Bigelow	77	Mr. Seligman	73	Mr. Stewart	82
<hr/>		<hr/>		<hr/>		<hr/>	
445		397		431		364	

Following the bowling the party returned to the faculty room where dancing was enjoyed for an hour to the piano, jazz, solo and duet, furnished by Daisy Seligman and Dennie, members of the party. The party broke up at eleven.

The following clipping from the *Boston Evening Transcript* of May third concerns our old friend and classmate, John Taylor Arms, who is making quite a name for himself in New York City:

Mr. John Taylor Arms, who is holding an exhibition of his etchings, aquatints and mezzotints, at Goodspeed's Bookshop, 5A Park Street, is a graduate in architecture of the Massachusetts Institute of Technology, and was born in Washington in 1887. He had practiced at his profession in New York for five years, making an etching from time to time, when the great war came, and he entered the service of the Government. In January, 1919, Mr. Arms definitely began etching, and, not long after, aquatinting. His earliest etchings, all architectural subjects, were stronger in tonality than in line quality; but lately he has produced plates of greater variety both in treatment and in subject. His aquatints of which he made a score in 1920, were at first printed only in monotone; the color prints are a later development. He has also made a few mezzotints, which are shown with the etchings and aquatints in this exhibition.

The first and most distinct impression made by a cursory view of Mr. Arms's work is that it is too precise and tight. He draws like an architect, and not like an etcher. His drawing, while very sound and capable from the point of view of construction, lacks the flexibility, freedom, and suggestiveness that are looked for in this medium; moreover, it is impersonal, and wants lightness of touch. It has little of the variety of line quality that belongs to the autographic method of interpretation, and conveys a certain sense of the mechanical, which divests it of the peculiar spontaneity and personal feeling that should be present in etching. All of these defects are doubtless due to his training as an architect. He may outgrow them, and, if he does, his schooling will be an excellent foundation to build upon.

It is interesting to compare his architectural etchings with those of Meryon. Now, Meryon was just as precise in his drawing of buildings as Mr. Arms is, but he could combine with this precision an extraordinary magic of personal style, using a technique which is never rigid nor cold, but always impregnated with an inexplicable implication of legendary,

historical and romantic significance, so that his houses, palaces, churches, bridges, and quays possess, as it were unmistakable human and living personalities. In a word, Meryon was endowed with a poetic temperament and a vivid imagination, and even his most prosaic themes, were beautified by a visionary quality, transcending all matters of fact.

The comparison is all the more pertinent because of the superficial analogies between some of Mr. Arms's etchings and those of the great Frenchman. It is not surprising that these analogies should exist. In fact, an etcher who devotes himself to architectural motives could hardly avoid the influence of such a master as Meryon. But Mr. Arms has not yet reached that advanced development of his art in which he can forget his knowledge, and let himself go; he has not yet fully learned the pictorial value of sacrifices, of reticences, of the concealment of his art. One is almost inclined to say he is too conscientious. A good fault, assuredly. The best artists have begun that way.

The aquatints and mezzotints printed in color are particularly interesting, especially the landscape entitled "Dawn" (41). Of the etchings, we note "West Forty-Second Street" (34), which has all of the artist's sincere and thorough integrity, and some of the excesses due to his over-zealous attention to details. Nothing is extenuated; nothing left out; it is actuality itself, but rather too much like a descriptive catalogue. He is giving an embarrassment of riches, a record, a report; he sees too much, and cumbers his composition with petty detail. It is all very well done, but it needs simplification, editing, boiling down. — W. H. D.

Well, mates, it is an agreeable surprise to find that the questionnaires for the ten-year book are coming in pretty well, just an even seventy having been received to date. But there are a lot more to come, so if you, yes, that means YOU, haven't done so already DO IT NOW!

Had a postal in April from Edward Kruckemeyer, IV, who is "having a wonderful trip in Europe studying architecture." — Harry Hess, IV, is making good in Philadelphia where he is in for himself as a structural engineer. He hopes to be able to catch the tag-end of the reunion anyway. — J. O. Greenan, III, writes from Keno Hill, Y. T., as follows:

"Your notice of the ten-year reunion received. As it would take from six weeks to two months to get to Boston, am afraid that I can't make it this time, much as I would like to. The program sounds good — remember me to Marcus Gressmann and any other of the 1911 miners who are there. This place is about ten days by trail up the Yukon and Stewart Rivers from Dawson. It is isolation to the ninth degree."

L. C. Cooley, X, is out in Indianapolis doing chemical research work for E. B. Badger & Sons, chemists, having been "changed from beer and 192 proof alcohol therefrom to maltose syrup — in one place a still, the other an evaporator full of problems about the elusive B. T. U., heat balances, density, viscosity, refractive index and color." He is afraid this will mean he can't "make" the reunion, but had hopes, at least. He said he ran across Bill West, one of the partners of Minot Dennett and Jack Moses, '00, in a diner recently and had a nice chat with him. — R. T. Cole, II, is mechanical engineer for the Massachusetts Oilless Bearings Company of Worcester, Mass., and is the inventor of the Cole Graphite Matrix, "the self-lubricating bearing." If any classmates are interested in the subject it will be worth your while to send for one of his company's attractive booklets, included in which is a fine photo of the eleventh. — Gutzue Barker, 'Ernie Fryer and J. D. MacKenzie recently had a reunion of their own in Vancouver, B. C., where C. M. B. has just opened the Canadian Cl — no, that's not right, it wasn't club it was office of the Fryer, Barker Company. — Burgess Darrow, VI, has left Akron and is now in Los Angeles with the Goodyear Tire and Rubber Company of California. — Was glad to get a questionnaire and an accompanying note of apology for having been so lax about writing from Bill Foster, IV. He is now in New York with Aymar Embury, II, an architect and Bill's former Captain in the Fortieth Engineers. — Ted Van Tassel went over to New York the second week in June and we told him to bring back all he could find — no, you're wrong, Hortense, we were talking about prizes and novelties for the reunion. — Frank Wood, X, has been transferred and is now with the Beverly Gas and Electric Company and says he is "too busy making good to attend the reunion." — Now for a few address changes to close these notes. For reunion publicity see the postscript notes.

CHANGES IN ADDRESS

Robert E. Anderson, Silverbell, Arizona; Charles M. Barker, 707 Standard Bank Building, Vancouver, B. C., Canada; Edward H. Blade, 30 Church Street, New York City;



1911. TEN YEAR REUNION

Burgess Darrow, 142 Hope Street, Huntington Park, California; Minot S. Dennett, 617 Book Building, Detroit, Michigan; Whitford Drake, Baltimore Dry Dock Shop Building Company, Baltimore, Maryland; William D. Foster, 132 Madison Avenue, New York City; Herbert Fryer, 1133 Henry Building, Seattle, Washington; John H. Gavin, Jr., 198 Warren Street, Roxbury, Massachusetts; Louis Grandgent, 1648 Massachusetts Avenue, Cambridge, Massachusetts; Comdr. R. T. Hanson, U. S. Navy Yard, Puget Sound, Washington; Harry C. Hess, Fuller Building, 10 South 18th Street, Philadelphia, Pennsylvania; Howard P. Ireland, 47 Lincoln Avenue, Binghamton, New York; Paul Kellogg, 2 Gilmore Court, White Plains, New York; Edward C. Tolman, K530 La Loma Avenue, Berkeley, California; Sumner C. Willis, 16 Algonquin Street, Dorchester, Massachusetts; Frank A. Wood, Beverly Gas and Electric Company, Beverly, Massachusetts.

POSTSCRIPT NOTES

SUCCESS! Thus may the four-day ten-year reunion of the grand and glorious Class of 1911 be described in one word. From the opening lunch at Riverbank Court, shortly after one on Thursday, June sixteenth, until the last car left the Mayflower Inn at Plymouth the following Sunday afternoon, the action never lagged and certainly there were new and lasting friendships created, as well as many enjoyable revivifications of old-time Tech comradeships.

With a registration of forty-six (46) men, twenty-five of whom were accompanied by their wives and three of whose children were there, it may be readily seen that we had the "makin's" of a lively party — and believe friend secretary — lively party we had! There were thirty-three at the Riverbank luncheon as follows: Mr. and Mrs. R. M. Barton, Mr. and Mrs. Stacy C. Bates, Mr. and Mrs. J. A. Bigelow, Mrs. W. S. Burleigh, O. S. Clark, Mr. and Mrs. M. E. Comstock, Lloyd C. Cooley, George B. Cummings, Mr. and Mrs. Orville B. Denison, Mrs. Thomas H. Haines, Mr. and Mrs. S. H. Hartshorn, Professor and Mrs. R. T. Haslam, Chairman and Mrs. John A. Herlihy, Mr. and Mrs. Roy G. MacPherson, D. J. Smith, Mr. and Mrs. O. W. Stewart, E. D. VanTassel, Jr., Mr. and Mrs. H. R. Tisdale, H. W. Van Hovenberg, Mr. and Mrs. Emmons J. Whitcomb, and E. M. Young. After a splendid lunch the party assembled out on the Riverway for a picture and then the trip to Plymouth was made in automobiles driven by members of the Class, each festively decorated with Tech pennants. Van Hovenberg was unable to make the trip, but Helen Elizabeth Denison, aged six months was waiting with her nurse to ride to Plymouth and on the way down we picked up "Bill" Burleigh and "Tommie" Haines. Arrivals at the hotel for dinner that night included: Art Leary, Charlie Linehan, Roger Loud, Mr. and Mrs. R. H. Mather and two-year-old son, Otto Meisel, Mr. and Mrs. C. L. Pepper, Mr. and Mrs. H. L. Robinson and Mr. and Mrs. W. J. Simonds.

Lack of space forbids complete chronicling of the reunion here, but the secretary is about to publish another issue of "Thelevener", which will contain "The Log of the Reunion," which is being prepared by Chester Pepper, official "keeper of the log." Thursday evening we stayed in the dining-room after dinner and first of all Chairman Jack Herlihy and Dennie officially welcomed the party, and then under the able guidance of O. W. Stewart each man rose and told in brief what he had accomplished during his ten years out of Tech. As these speeches will be covered in digest form in the ten-year book, to be published in the fall, no attempt will be made to cover them here. A wonderful spirit of conviviality and *camaraderie* was engendered at this dinner through the efforts of Mrs. Whitcomb and her most efficient ladies' committee. The girls had red and gray horns and the men red and gray pencils, each containing a numbered tag. Numbers were then matched for dinner guests and then between courses a systematic progression was carried out, so that every one met practically every one else in the course of the evening. The party broke up pretty early Thursday night as we were rather tired. Oh yes, after the dinner and informal speeches we danced a while and were joined by George Watson, IV, of Texas and his sister-in-law. They drove back to Boston that evening, however. The latter part of the evening Stacy Bates brought forward the original 1911 banner, which he has had since our freshman theatre night, and presented it to the Class. The secretary heartily thanked him.

Friday we were joined by Dick Ranger, Carl Richmond, Bill Buckley, Mr. and Mrs. W. H. Hodgeman, Mr. and Mrs. Morell Mackenzie, our bridal couple, Mr. and Mrs. R. E. Morse, Mr. and Mrs. Paul Kellogg, Mr. and Mrs. A. O. Wilson, Mr. and Mrs. W. C. Wilson and Vic Willis. Only about half the crowd went on the sightseeing auto

trip to the Cape and the new canal Friday morning, the others staying at the hotel or going to Plymouth Country Club. A tennis court was laid out at the hotel, the regular courts not having been completed. Ask the "sightseers" whether the basket lunch or the shore dinner we had at the hotel was the most attractive. (Ted Van Tassel has agreed to answer this question for the "sightseers".) Friday afternoon was taken up with tennis, golf and sightseeing in historic Plymouth. We were fortunate in having the well-known Jim Rollins, '78, former president of the Alumni Association, stop at the hotel with his wife and son and daughter-in-law for dinner. Mr. Rollins addressed the Class after dinner and congratulated them on having the ladies there and on their efficient secretary. In the evening there were cards and dancing and at eleven o'clock all hands trooped down to the beach in the glorious moonlight. There we had a huge bonfire and toasted marshmallows, cheered, sang and reminisced. It was a big night and it was well along into Saturday morning when the party broke up.

Saturday morning there were more golf and tennis. Through the day we were joined by R. W. Bierer (who just made a flying call and had to leave), Skip Harrington, Kanezo Goto, Ken Faunce, Eddie Vose, Mr. and Mrs. W. J. Pead, Jr., and Barbara Netta, aged four months. In the afternoon came the baseball contests down on the beach. First the married men captained by Ted Van Tassel, beat Charlie Linehan's benedicts by a score of about 6 to 4. Then the ladies' team, captained by Mrs. Whitcomb, and all in regulation baseball uniforms, furnished by Ted Van Tassel, appeared on the beach and they defeated the married men decisively, Bob Haslam doing the umpiring. Oh, by the way, a group picture was taken just after lunch Saturday.

A wonderfully successful impromptu entertainment was staged Saturday evening under the title of "The Court of Nero." This was under the direction of O. W. Stewart and Mrs. Whitcomb and both of them, as well as the principal entertainers deserve a great deal of credit. Paul Kellogg made a wonderfully effective Nero, whose herald was Lloyd Cooley and whose court jesters were Tommie Haines and "Bobbie" (Mrs. O. B. Denison.) Following the entrance of Nero and his court the entertainment started with a song and dance number by Mrs. Denison, accompanied by Dennie at the piano. Then Mrs. Stewart gave some very effective readings, with Mrs. Whitcomb at the piano. At this point Chairman Herlihy called on the secretary to welcome the newcomers and following a short speech of welcome Dennie announced the appointment of John A. Herlihy as assistant secretary to succeed H. Fryer. This was greeted with round after round of applause and Jack was lustily cheered. Then came the first of several presentations to Dennie. In a few well-chosen words Jack Herlihy, in behalf of his classmates, presented the secretary with an engraved gold watch and a handsomely prepared testimonial of appreciation of his ten years' service. Your secretary feebly attempted to express the appreciation and joy that was in his heart at that moment, but was only able to slightly express it. In fact even here in cold type the real joy cannot be expressed. Just let me say to each and every one of you: "I'm glad you like the way I am serving you. Please continue to support my efforts to make 1911 the BEST class Tech ever graduated. The wonderful remembrances you have made will ever be cherished by Mrs. Denison and myself. Thank you!"

Then followed dancing, after which Ken Faunce put on his stunt from the Tech Show 1912 entitled "A Hold-Up Game." Then Mrs. Herlihy and Mrs. Haines presented "A Shower of Sweets." Then Jack presented Dennie, then referred as the "sloppy secretary who carries a thousand sheets of paper in a dirty brown bag," with a handsome leather brief-case, made out of leather specially prepared by Ted Van Tassel at the Van Tassel tannery in Stoneham. Then Mrs. Barton and Mrs. Haslam put on a "horse race" and Art Leary, Charles Linehan, Otto Meisel, Chet Perpper and A. O. Wilson presented vocal numbers in Quaker attire. Then there was dancing, following which the "stingy secretary, who had neglected to provide smokes for all at the reunion" had coals of fire heaped on his head by being presented with a carton of Fatima cigarettes. Then A. O. Wilson sang, Mrs. Wilson accompanying him at the piano.

A novel one-act pantomime entitled "The Coquette" was next presented. Ted Van Tassel was the "coquette", and most bewitching he was! Stan Hartshorn was the Swedish maid who announced the suitors of the coquette, portrayed by Mrs. Kellogg, Mrs. Mather, Mrs. Bigelow and Mrs. Morse. Young, Tisdale, Pead, Willis and Cumings, next essayed "Hats Off", a feat of balancing in which you try to knock four hats off each of the arms of two chairs while balanced on a broom stick and wash-basket between the two chairs.

Then there was another dance, following which Nero announced that he had decorated nobody, so he ordered the secretary to be decorated "Chief Nut." The "decoration" consisted of a red-and-gray ribbon with an M. I. T. button, at the end of which were two Pilgrim half-dollars with a twenty-dollar gold-piece between them. Your poor secretary was too flabbergasted by this time to more than whisper: "Thank you."

Then Mrs. Stewart, Mrs. Pepper and Mrs. W. C. Wilson staged a very clever "Barber Shop." It was agreed by all that George Cumings was the "star" customer. Ask George, he knows! Then Mrs. Burleigh and Mrs. Stewart presented an "adjective story" of the reunion, written by Mrs. Denison and in which all the adjectives had been left out. Adjectives supplied by members of the party were added to the story in the order of their receipt and some very amusing combinations resulted. There was then another dance, and then sextette singing by A. O. Wilson, Young, Kellogg, Constock, Van Tassel and Willis. Mrs. Comstock and Mrs. Simonds presented "The McGinty's" and Richmond, Pepper, Morse, Mather, Loud and W. C. Wilson presented "The Beheaded Slaves." A splendid finale was presented with the entrance of Mrs. Tisdale as the "Statue of Liberty," all present rising and singing the national anthem. Dancing followed until 11.30 and then a number of the party joined around the piano and sang songs from the old Tech shows, with Dennie at the piano, Ted Van Tassel with his banjo-mandolin and Ken Faunce with his "uke".

Sunday morning most of the party stayed around the hotel, some playing tennis and others golf. The party broke up after dinner Sunday and all were most enthusiastic in their praise of the facilities and service provided by Mr. and Mrs. Dooley, proprietors of the Mayflower Inn. More than three-quarters of those present at Sunday dinner were in favor of coming down there for a little shorter week-end next year.

Among the prize awards were the following: Fishing, first fish, Cumings, largest, Tisdale; golf, Hartshorn, first, Denison, second; two best all-round sports among the ladies, Mrs. Comstock and Mrs. Kellogg; best all round eaters, Haines and Mrs. Denison; youngest lady present, Barbara Netta Pead, aged four months; most adorable baby as judged from photographs, Baby Comstock; most interesting baby, Pearson Stewart.

Certainly this reunion did more to promote good fellowship among eleveners and their wives and it was a genuine treat to see how well the party mixed things at Plymouth, there being no cliques and everybody joining in the festivities. Watch for your copy of "Thelevener" for Chet Pepper's "log" and if you haven't sent in your questionnaire yet — WRITE TO DENNIE!

1912

RANDALL CREMER, *Secretary*, Rochelle Park, New Rochelle, N. Y.

F. J. SHEPARD, JR., *Assistant Secretary*, 568 East First Street, South Boston, Mass.

Nine years out with only one more lap to our tenth reunion! Everybody should make a note at once that June, 1922, means a trip back to Boston to see the crowd at the first reunion of 1912. Having missed our five-year reunion, it is absolutely necessary that every effort be made to make our tenth year get-together, one long to be remembered. Start planning for it now.

The following 1912 men were at the inauguration banquet:

A. F. Allen, New Orleans, La.; E. C. Holbrook, Boston, Mass.; E. O. Upham, New Haven, Conn.; H. P. Swift, Woburn, Mass.; Hamilton Merrill, Boston, Mass.; E. H. Schell, Cambridge, Mass.

C. E. Morrow is spending the summer at Magnolia Station, Mass., where he may be reached Care of Mrs. D. N. Thornberg. Morrow has just returned from Philadelphia where he has been for some time on some Stone & Webster appraisal work for the Philadelphia Suburban Gas and Electric Company.

We have the pleasure of announcing the marriage of W. H. Baxter as described below from the *Tech*.

Announcement is made of the wedding in Syracuse, N. Y., of Miss Grace A. Ward, daughter of Mrs. Porter Bronson Ward, to William Henry Baxter, '12, son of Dr. and Mrs. William E. Baxter of Boston and Topsfield, which took place at the Kanatenah Club in Syracuse on Saturday, December 11. The bride's attendants were Mrs. Floyd I.

Seaman, Mrs. John Hunter Nead, Mrs. Worth Clark and Mrs. Thomas Beasley as matrons of honor, and little Roberta Ward Seaman and Margaret Louise Gilkson as flower girls. Mr. Coke Sykes was best man and the ushers were Mr. Thomas A. Beasley, Mr. C. Harold Steele, Mr. Robert A. Croasdale and Dr. William Henderson. Mr. and Mrs. Ward will live in Syracuse.

Oliver Lombard from Short Falls, New Hampshire, announces the birth of Stephen James Lombard on April 8, weight seven pounds, nine ounces. Another testimonial for the New Hampshire climate. — McGrath is reported to have left Mobile for the North, but his exact location is not known. Will the first man seeing him report to headquarters.

The Alumni office has lost track of Cecil B. Vaughan, II, whose last address was Presso Indros, Terno, Italy. Will any one knowing of his present whereabouts please advise the secretary.

The following from Harold G. Manning gives his history to date.

"After getting out of the service, I returned to the Patent Office where I specialized in the examination of electrochemical and metallurgical inventions. While in Washington, I also succeeded in completing the law work which I had started before the war, and was admitted to the District of Columbia Bar. I then moved to New York, where I was for some time with a well-known firm of patent lawyers, and after getting admitted to the New York Bar, I came to Connecticut, where I have recently opened an office of my own, to solicit patents, trade-marks, and copyrights. I have found things very pleasant in this town, and am very well satisfied with the way my business has been coming in.

You inquire what has become of Pedersen; the last I heard, he was still in Washington, where he was doing patent work for the H. L. Doherty Company of New York. I have met very few men from our Class since graduation, and the Class seems to be well scattered. While in New York last winter, however, I saw a good deal of Harold Mitchell, who is now located with the Kenyon Rubber Company of Brooklyn. Last week, while in East Berlin, Connecticut, I visited Fredriksen, who is in charge of the laboratory of the Connecticut Metal and Chemical Company. He tells me that Dr. W. J. Murray who was formerly with him there has now gone with the A. D. Little & Company in Boston, and has settled down with his wife in Dorchester. Should you come to Waterbury at any time, call here at my office, which is in the Root & Boyd Building, 168 Grand Street, and I will be glad to welcome you."

J. W. Lovell is still in Pawtucket, R. I., with the Collyer Insulated Wire and Cable Company where he has been for the last three years. After leaving school he went with the Underwriters Laboratories, being located in Boston, Providence and Hartford with them. Four years of this drove him to Philadelphia with the Bell Telephone Company, which place he left to go to Rhode Island. — Don Bent is still in Tucumcari, New Mexico, where he rates as resident manager of the Tucumcari Light and Power Company. He boasts of two daughters, one three years old, and the other five months. — Albion R. Davis is now with the H. A. Johnson Company, wholesale grocers, 221 State Street, Boston, Mass. His home address is given later, under address changes.

Every one will be glad to hear of the marriage of our genial President "Keb" to Miss Jane Jutte. The ceremony took place on June 5 at Scarborough on the Hudson, New York, and as the country papers say, "a pleasant time was had by all." Keb and his bride sailed on June 7 for Europe and will make their headquarters at Paris during their six weeks stay. Keb may be found upon his return at his old stand at the Harriman National Bank Building, Fifth Avenue and 43d Street, with Wells Bosworth.

Word has just been received of the death of Henry A. Johnson, II, who passed away on December 12, 1920. — Gurdon Irving Edgerton, IV, passed away at the Massachusetts General Hospital on June 13, 1921. Edge had been in very poor health since his discharge from the Naval Aviation Service and did not survive from a serious operation which it was hoped would help him. Memorial services were held in the Chapel at Mount Auburn Cemetery on June 20.

Any one having any news will please forward it direct. It is much needed as you may have noted from the above. We have received the following changes in address from the Alumni office.

Frank O. Baldwin, 2710 West Grace Street, Richmond, Va.; John L. Barry, 4 Webster Street, Taunton, Mass.; George S. Brigham, Jr., 1605 Del Mar Avenue, Fresno, Calif.; Charles F. Cabeen, 287 Cabot Street, Beverly, Mass.; Edward Canfield, Jr., 65 Broadway, New York City; Marcus M. Cory, Jerseyville, Ill.; Jonas M. Costner, 117 North McDowell

Street, Raleigh, N. C.; Lawrence T. Cummings, 8 East Iowa Street, Muskegon, Mich.; David Dasso, care Vulcan Iron Works Co., Apartado 137, Callao, Peru; Albion R. Davis 1423 Commonwealth Avenue, Brighton, Mass.; Harold B. Davis, Canadian Ingersoll Rand Co., Box 190, Cobalt, Ont.; Sidney L. Davis, 17 Gramercy Park, New York City; Ernest W. De Witt, 12206 Harvard Avenue, Chicago, Ill.; Harris E. Dexter, care Anderson, Meyer & Co., Ltd., 4 Yuen Ming Yuen Road, Shanghai, China; Boyd Dudley, Jr., Amphion Piano Player Company, Syracuse, N. Y.; Leslie B. Duke, 108 West Third Street, Mansfield, Ohio; Cornelius Duyser, 102 Wallins Street, Winsted, Conn.; Adolph Eisenberg, 4 Waumbeck Street, Roxbury, Mass.; Ward N. Gere, 361 Burgess Avenue, Indianapolis, Ind.; Paul G. Fraser, 504 Pacific Street, Brooklyn, N. Y.; Jesse F. Hakes, 74 Corey Road, Brookline, Mass.; Edwin C. Holbrook, 39 Hemenway Street, Boston, Mass.; Harold G. Jenks, 197a Washington Street, Salem, Mass.; Charles C. Jones, Box 12, Enid, Okla.; Phillip G. Jones, care Goodyear Tire and Rubber Co., Los Angeles, Calif.; Rodney M. Lowe, 21 Arlington Street, Fitchburg, Mass.; Harold G. Manning, Root & Boyd Building, 168 Grand Street, Waterbury, Conn.; Raymond E. Wilson, 16 Hillside Road, Watertown, Mass.; Herbert Dyer Swift, P. O. Box 130, Woburn, Mass.; John P. Minton, 5427 C. University Avenue, Chicago, Ill.; Harold D. Mitchell, 803 Beverley Road, Brooklyn, N. Y.; Joseph I. Murray, Crescent Pine Mill Co., Winnipeg, Manitoba, Can.; Frank J. Osborne, 179 Berkeley Avenue, Bloomfield, N. J.; Allen W. Reid, 533 Madison Avenue, York, Pa.; Stanley Tirrell, 432 North Lombard Avenue, Oak Park, Ill.; George L. Uman, 4841 West 18th Place, Los Angeles, Calif.; Arthur W. Underhill, 1638 Marine Trust Co. Building, Buffalo, N. Y.; Hayes B. Vickers, 1214 West Fifth Street, Gary, Ind.; Ralph E. Vining, 2803 Guilford Avenue, Baltimore, Md.; Robert J. Wiseman, care Okonite Co., Passaic, N. J.

1913

F. D. MURDOCK, *Secretary*, 230 Chandler Street, Buffalo, N. Y.

R. CHARLES THOMPSON, *Assistant Secretary*, 120 Milk Street, Boston, Mass.

We had hoped to hear from at least half the Class in order to be able to send to each member a copy of these notes which would be really comprehensive. We have heard from less than a quarter of our number, but we shall send out the meagre news.

F. B. Williams, II, has helped his company, Walker & Pratt Manufacturing Company, to build and equip a new electric range plant. He is now performing the very difficult task of getting after the salesmen to make them take the ranges as fast as they are made. — Max Harrington, XI, is now chief engineer for Hungerford & Terry, Inc. He glories in his continued enjoyment of single blessedness. — Continuing its travels around the globe, the enterprising Childs Company is building a restaurant in Winnipeg, Manitoba. E. D. Pratt, I, who according to his modest statement, assists the general manager, is supervising and superintending construction. He has really invented a system and devices for dispensing food and was granted a patent on it. — M. W. Salomanson, IV, has knocked about enough to be convinced that old Boston is the best place to live after all. He is an architectural designer for Allen & Collens, Boston architects. — Fred Lane, X, is with the Bureau of Mines as organic chemist.

Ralph L. Thomas, VI, is efficiency engineer for the Pennsylvania Water and Power Co. of Baltimore. — Sam Rogers, II, has left Boston and is now located in Hartford, Conn., as engineer for the Improved Risk Department of the National Fire Insurance Co. — S. H. Champlin, V, has taken up his duties as chemist for the Cape Cod Preserving Corporation of Onset, Mass. Read his breezy note: "Raised and canned almost a year's supply of vegetables last summer and aim to beat that record this year. My five years with Campbell's Soups made me a canner for life and after two years baking biscuits, I am glad to see a tin can once more. Cape Cod's pretty good country, too, and I wouldn't swap it for the whole of Long Island with Manhattan thrown in. Gypsy moths are plentiful, but afford a great opportunity for agricultural research. I went to American Chemical Company's meeting at Rochester in April and saw Roger Williams who is with du Ponts at Wilmington. G. T. Lane with Eastman Kodak and F. W. Lane with United States Bureau of Mines at Pittsburgh. The M. I. T. dinner at Rochester Club was a great success."

You fellows who think you have a lot of work and a lot of responsibility just read the list of titles which R. A. Nowlin, I, carries: "Crozer Land Association, Prin. Asst. Engr. Crozer Coal and Coke Co., Chief Engr. Page Coal and Coke Co., Chief Engr. Upland Coal and Coke Co., Chief Engr. Nowlin is also connected with other companies elsewhere. The Crozer Land Association is a land-holding company with 17,000 acres in the heart of the Pocahontas Field. Other companies are leasing companies and among the largest and best equipped in field." He is one of the recent additions to class benedicts, having married Miss Georgia J. Bonham, Elkhorn, W. Va. He notes "Worked like the devil all the time. Still can do work much faster on the ground than I can figure it out on the blackboard. Just finished a railroad yard with 120 car capacity for a new \$150,000 steel tippie, but did not figure the curves out to a fine degree as we had to do in school. Got married, had an attack of appendicitis, and promoted with companies."

At last here is one man who has a company named after himself. Stanley H. Davis, VI, is president and general manager of the S. H. Davis Paper Box Company of Toledo. — "Twink" Starr, I, is superintendent of construction for the Ferro Concrete Construction Company of Cincinnati. — Secretary and treasurer are the offices held by W. J. Daniels, XI, in the Indianapolis Union Railway Company. — Lawrence Bevan, II, is agricultural secretary for the Boston Chamber of Commerce. He has five years of married life to his credit. — Gene Burrell, II, wants to know what the bunch think of the American Association of Engineers. He notes "I'm for it strong. More power to the association of engineers. I sincerely believe that all engineering schools should enlighten the embryo engineers just what poor prospects they have to make a decent living. The trouble is that most instructors are ignorant of that fact and cannot be convinced of the truth." — Another man who has attained the presidency of a company is George H. Taber, Jr., X. He holds that position with the Sinclair Crude Oil Purchasing Company.

James M. Beale, XI, has justified his existence by learning to make what he calls "Damn good gin". He invites his friends to come around and try some. Very cautiously he omitted to send in his address, so he isn't likely to be put out much. — G. E. Leavitt, Jr., II, is works superintendent of a cotton seed oil refining company, for the Southern Cotton Oil Company. He reports the birth of a son last November. — O. M. Arnold, VI, is one of the few to report a busy and prosperous year. He states he has added one girl to the population of the United States and has had a hand in adding some good technical men to his organization, the American Telephone and Telegraph Company. — Joe J. Strachan, I, has been transferred from the Hudson River works to the main office as general superintendent of construction for the General Chemical Company, now bearing the new name "Allied Chemical and Dye Corporation." Joe notes: "Greeted on his arrival, September 23, 1920, Master Dick. Also haven't (yet) lost my job or had my pay cut except by the collector of internal revenue (may God forgive him)."

Read what W. A. Bryant, I, does to keep existence from being monotonous: "Last winter was flat. At present time we have on hand an exceptional amount of construction including a garage of 3000 square feet, and an eight-story apartment hotel and some alteration jobs. The apartment hotel was started June 1, 1921 and is to be finished October 1, 1921 if possible. Lester Lustin's concern, the Boston Structural Steel Company, is furnishing the frame for this in record time. In other words the construction is proceeding right on the tail of the design. No rest for the weary. Have taken on a side line by becoming an authorized agent for the American La France Fire Engine Company selling their sundry building equipment and safety devices. I wouldn't throw down the chance of selling a town a piece of motor apparatus if I had the chance, but ordinary fire extinguishers are easier to sell."

Walter P. Bylund, II, is sales manager for two concerns, dispensing dainties much used by the fair sex. His line includes Listerated Gum, Cocoa and Chocolates. He notes "I have quit drinking. And I have found out that Walt Muther is a piker. He didn't answer a letter I wrote him." — Harry D. Peck, II, is now patent solicitor with the law firm of Mitchell, Chadwick & Kent. Harry has resumed his busy life, having accomplished the three feats, noted: "Been elected to the Alumni Council. Completed first year in Law School. Also voted for Harding and Coolidge." — Henry C. Thierfelder, I, designs highways and highway constructions for the Rhode Island State Highway Commission. In summer he wrestles with hay fever for amusement. — According to his statement V. G. Kay, VI, is a terrific worker. He is vice-president and general manager of the Bell Washer and Wringer Co. of Cleveland. — Bill Flanders, I, has gone from engineering into business

management. He holds the position of office manager for the Hooker Electrochemical Company. Bill sends along these few reminiscent thoughts: "My daughter, Betty, now five years old, has her first 'Commencement' this year. She graduates from kindergarten. How time does fly! It certainly does make a fellow think, and yet it only seems yesterday when 'Lammy' Lehmaier beat it up the Newbury Street Alley with a cop on his heels and hid in my roommate's closet." — E. L. Bray, VI, has an office job now for the Fairbanks Morse Company at Philadelphia. — "Pop" Bruner, X, is holding his own as assistant technical superintendent of the Boston Woven Hose and Rubber Company.

We are glad to hear from one of our few Course VI men. E. L. Wadsworth is helping to keep the automobile owners in Eastport, Maine, in good temper as manager and treasurer of a garage in that town. — Beginning July 1 Charles Thompson, X, will be associated with his father in the firm of Thompson-Durkee Company, dealers in plumbing supplies in Boston. — L. B. Hoyt, I, has something to boast of. He trimmed his superior officer, the district engineer, at tennis in spite of the fact that he hasn't played for five years. — Harry Brande, X, is in business for himself. He is a jobber. He has one baby. — A. R. Atwater, VI, had a son in April a year ago. — Larry Hart, XI, reports that he had hard work and plenty of fun in the past year. He sends out the optimistic statement that the first hundred years are the hardest. — L. E. Wright, XIV, is manager of the Minnehaha Water Co. of Cleveland. — Last March Albion Davis, I, was presented by Mrs. Davis with a son. — Supervising bridge engineer, in charge of all bridge constructing in the State of Michigan is the very respectable job of C. S. Roe, I. — A. D. Conant, II, is supervising engineer for the New England Telephone and Telegraph Co. — John Blatchford, III, is pleased to tell us of his engagement to Miss Esther H. Roberts of Oak Park, Ill. We too are pleased to hear it. — Tenney Davis, V, is assistant professor of organic chemistry at the institution. — C. F. Haglin, Jr., II, writes that he has work and lots of fun with the kid, referring to his baby Virginia, born last September. — Chauncy Crawford, X, notes with apparent glee that he has left Pittsburgh.

I. W. Knight, VI, writes: "The principal thing that has happened last year to justify my existence is the birth of a son, Richard Carpenter Knight, on September 12, 1920. I grieve to have to say, however, that it was at the heavy cost of his mother's life, for she only lived twelve days afterwards.

Richard at present has all the attributes of a prize fighter, but if I can suppress successfully his tendency to develop cauliflower ears, I hope he will be on hand as a new Tech graduate to welcome us old fossils back to our thirtieth in 1943. This is my tenth year since graduation from Brown and our Class has just finished its decennial celebration. There were some eighty-five back out of about two hundred and we had a great time. Here's hoping 1913 at Tech will have as successful a reunion two years from now." We are very much grieved to learn of the death of Mrs. Knight.

George A. Taylor, II, is sales engineer, power plant equipment of the G. G. Slaughter Machinery Company, Greenville, S. C. We are not sure that we have recorded his marriage in July, 1919, to Miss Marie Boatwright, Monetta, S. C. — Benjamin S. Munch, II, is treasurer and general manager of the Tubular Products Co., Southington, Conn. They manufacture manifolds and auto parts. — Harold Hopkins, IV, is using his architectural training to do an artistic job in agriculture. He notes, "Have finest registered Hampshire Sheep, ditto, Poland China Hogs, ditto, Shorthorn Cattle, in the State. Have one of the finest farms in the Sacramento Valley, which we are developing. Although I did not study soils in Course IV, yet every bit I did get I am using. We are just finishing a \$16,000 barn; have built several pumping plants and constructed an efficient irrigation system on the Conaway Ranch in which we are interested. I installed an irrigation and drainage system covering 22,000 acres. There were several large dredges employed on this work. The pumps are very large, the largest being 46 inches. The water is taken from the Sacramento River and is used to grow rice and grain." — Here's a new one, "Specialist in the bacteriology of bee diseases" is A. P. Sturtevant, VI. Beat that if you can.

Attention you civil engineers to what Henry A. Burr, I, is doing for the Tennessee Highway Commission. "Nothing much; am just finishing up design for new bridge over the Cumberland River this state, total length 1300 feet, consisting of 2,280 feet steel spans 1,180 feet and remainder concrete girders. River piers 163 feet high." — E. A. Hubbard, IV, has been admitted to the firm of Bigelow & Wadsworth, architects. — Harold E. Beckman, III, is eastern sales manager for the G. S. Obermayer Co., Newark, N. J. A year ago last June he was married to Miss Jeanne H. Jacoby. — T. W. Pinnock, II,

decided that there is more satisfaction working for himself, so he started the Battery Service Company of Salem, Mass. He is president and treasurer. — B. E. Brooke, IV, left the Youngstown Sheet and Tube Company to start a general practice of his own. He continues to do his former company's work as architect. — O. C. Walton is chief engineer of auto design and construction for the Noma Motor Corporation of New York City. — M. W. Merrill, XIV, is assistant superintendent of the electrolytic plant of the United States Metals Refining Company. He notes, "Have spent some very pleasant hours at work and at play with quite a few 'Tech' men who are located in this vicinity temporarily. Among them were two 1913 men, George Bartlett and Fred Stillman. Have been very fortunate in being with an organization which is both progressive and far-sighted. As a result in spite of the generally poor copper market our plant is operating better than 85 per cent full. Just at present we have gone into the junk business, recovering all kinds of imaginable copper and brass scrap. Among other things several million pounds of battlefield scrap. Here's hoping that we can get the old bunch together for a regular get-together in 1923."

H. P. Fessenden, I, with Stone & Webster, has been helping Henry Ford design one of his "white coal" stations at Green Island, N. Y. "Fessy" contributes this bit of coincidence: "My young brother-in-law took a trip to California this winter and on the way east got into a poker game and got 'stuck'. On investigation two of the men turned out to be Tech men and one of them turned out to be Frank Sinnicks who sent his card with the note on the back, which I am enclosing. It's a small world." — Frank Sinnicks is located at San Francisco with the Adams Balcom Company. — Roger Freeman has hung out his shingle in New York City. He has gotten out an attractive booklet on the subject of industrial plants which have been erected under his supervision. The magnitude of his work certainly bespeaks of great ability and we are sure that Roger will be successful in his new venture. He notes "General construction work has been, as you doubtless know, exceedingly flat, but we have made one or two interesting reports, put in bids for a considerable amount of work, including one for the Yellow River Bridge in China, and just now are very busy on the plans for a fair-size hydro-electric development in Indiana and hope in addition to this we will be called upon to do the construction work. I have seen very few of the boys here but ran into Bill Kay at the Midnight Follies some weeks ago." — E. N. Taylor, XIV, writes in answer to the question "What company are you with?" "My wife." He is one of the few job hunters that we know about and it is certain that some concern is going to get a good man before long. — P. C. Warner, IV, was married last October to Miss Natalie A. Kozlova of Brookline, Mass. He notes that his work at the Naval Air Station at Pensacola, Florida, is of an administrative character. That naval air station is by far the largest one of its kind in this country.

1914

H. B. RICHMOND, *Secretary*, 12 George Street, Medford 55, Mass.

G. K. PERLEY, *Assistant Secretary*, 45 Hill Side Terrace, Belmont, Mass.

During the past quarter there have been several meetings of the Class. On April 5 we held our regular monthly luncheon at the Boston Tavern. It has been our aim to keep these luncheons strictly within the regulation noon hour. It was found difficult to do this at the Boston Tavern because of the slow service. At the April meeting we voted to change our luncheon place to Healy's. Accordingly the luncheon of May 3 was held there. Although the luncheon was over well within the hour, Pat Adams' stories and Healy's cabaret detained most of the Class well beyond our regular time for adjournment. So enthusiastic did some of our members become that they wanted the luncheon to be held weekly.

As the Alumni dinner to our new president, Dr. Nichols, was scheduled for June 8, the day after our regular monthly luncheon, it was decided to omit the June luncheon and to urge attendance at the dinner. While there were not as many fourteeners present at the dinner as we would like to have had, those attending spent a very enjoyable evening. Those present were Crocker, XIV, Adams, H. S. Wilkins, XIV, Stubbs, XI, True, II, Swift, VI, and Richmond, VI. At the inauguration exercises on the morning of June 8

the secretary saw three other fourteeners and it is understood that there were several others present.

Our real event of the quarter was the dinner held at the Walker Memorial on April 24. Although the very inclement weather prevented several men from attending after they had signed up and arrangements made for them, we had an attendance of twenty-four.

The party started early in the afternoon with some very spirited bowling tournaments. There was much competition on the strikes and the spares to prove that the Class was still young, but most of the participants were looking for the linament bottle on Sunday morning.

At six-thirty the Class assembled in the Faculty Dining Room and enjoyed a very well-served dinner. Much favorable comment was expressed on the improved dining service at Walker. After the dinner a few routine Class affairs were disposed of, then each member present told some amusing incident which had occurred during the past year. Cigars were presented to Crocker, Dunn and Fiske for the best stories. The feature of the evening was an address by Prof. A. T. Robinson of the English Department. Although Professor Robinson kept the Class in continual laughter he spoke on the more serious side of the student life at the Institute, and in particular on the work of the English Department in their attempt to broaden out the students into real live individuals. He also spoke of the meritorious work Mrs. Robinson has been doing among the sick students, particularly those a long way from home.

After the dinner and addresses the Class again adjourned to the bowling alleys where some speedy bowling was shown, although no international records were broken. It was eleven o'clock before the party finally broke up and all those present confessed at having a very enjoyable time. Those present were: C. R. Gardner, A. F. Petts, C. P. Fiske, C. W. Ricker, D. J. Stump, C. H. Wilkins, H. S. Wilkins, C. A. Corney, C. M. Berry, G. W. Blakeley, J. A. Judge, S. H. Harper, M. S. Maxim, F. L. Ahern, P. H. Adams, E. C. Crocker, F. E. Dunn, R. E. Hardy, V. J. Gallene, W. P. Houston, H. S. Busby, I. H. Lovett, G. K. Perley, H. B. Richmond.

Your secretary has been a regular attendant at the meetings of the Alumni Council during the past quarter. Several very important matters, such as the advisability of limiting the number of students at the Institute, more athletic activity, etc., have been taken up. Fiske and Stubbs have also been frequent attendants at these meetings. The subject of athletics is a very large and important one at the present time. The class secretaries have been asked to present it to their classes. It will be the subject of a Class letter at an early date. A small contribution has been made from the Class treasury to assist the Technology Christian Association in its work.

No plans have been made for summer meetings of the Class although a picnic has been suggested. The luncheons have been discontinued during the warm months, but will be resumed in October with renewed enthusiasm. Their popularity during the past winter has assured their continuation next winter. Every fourteener in Greater Boston should make an effort to attend them. He will find them a real asset.

It is the sad duty of your secretary to announce the death of our classmate, Harold A. Deal, IV, in New York City on February 21 of this year. No particulars as to the cause were received. — One of the saddest announcements which your secretary has recently received is that of the death of the wife of J. A. Judge, VI. Jimmy was married on the twelfth of last October and in March of this year, after just five months, lost his wife by peritonitis following an operation for appendicitis.

Our society column has five interesting items of note this month. From W. L. McPherrin, II, comes the announcement of the arrival on April 5 of a son, James Wigginton McPherrin. — Dr. and Mrs. Henry Posert of Memphis, Tenn., have announced the marriage of their daughter Eve Theodosia on March 9 to Albert J. Hahn, VI. — An announcement which came as a distinct surprise was that of Mr. and Mrs. Daniel Parker Jewett announcing the marriage of Miss Elizabeth Antoinette Judkins to Albert Case Sherman, IV, on May twenty-seventh. Sherman has been a regular attendant at our monthly luncheons and never even dropped a hint of the approaching event. — Word was received announcing the engagement of L. W. Snow, II, to Miss Emily Royer of Greensburg, Pa. Your secretary attempted to check up the authenticity of this statement and succeeded in locating Les in Tampico, Mexico. The following are extracts from Snow's letter of reply: "I have just received your letter forwarded from Rochester. I had planned to write you very soon telling you that I had come to Mexico with all intentions of staying.

At the moment I am in Tampico — and I don't recommend it in summer to any one with a good sense of smell, but I am going to Mexico City for a visit. If after that things look good to me here in Mexico, I shall return to the States long enough to get married and then come back. I have left Bond & Goodwin and am assisting an individual who has large interests in Mexico. We hope to get married in May. I hope to get established in Mexico City, if I stay, in a permanent home where Tech men, especially fourteeners, will always be welcome when in Mexico."

Les must have carried out his plans because early in June the following announcement was received, "Mrs. Harry Franklin Royer announces the marriage of her daughter Emily to Mr. Leslie Whitmore Snow on Saturday, the fourth of June, one thousand nine hundred and twenty-one at the Plaza in the city of New York."

As these notes were being written up the following announcement was received: "Mrs. John C. Clark announces the marriage of her daughter, Anita Quigley, to Mr. Arthur Frank Peaslee on Saturday, the fourth of June, one thousand nine hundred and twenty-one, Hartford, Connecticut." Congratulations to all!

Several very interesting replies have been received to the secretary's appeal for news. Some of these letters are of so much general interest that they are being quoted in part. Our old friend, T. J. Duffield, XI, is still in France with the Rockefeller Foundation. Tom writes as follows: "From this angle there is nothing interesting to write about. Every fourteener who wasn't here during the war has been here since and, of course Paris is old stuff with them. However, let me tell you that the more I see of it, the more I like it. During the twenty-one months that I've been back here, I've had pleasant trips to England, Holland, Belgium and Switzerland and I've managed to see quite a little of France as well. I just recently returned from a trip to the Riviera, Cannes, Nice and Monte Carlo. At Cannes, my wife and I spent a very pleasant day with Paul Heroult who was with us (1914) our first year. After more than four years in German prison camps — he was taken prisoner the twenty-second day of the war — Paul came back to civilization, is married, and now boasts of a fine young girl of four months. Paul is, among other things, president of a Tourist Agency, *Agence Atamca*, at Cannes, where he is doing a fine business. We saw Charley Fox and his wife when they were on their way back to the States from Serbia about a year ago, but from that time we've heard nothing from nor about him. His sister, the wife of Edward Stuart, XI, '10, says she is as much in the dark as we are. Shake Charley up!

I frequently see Clarence Berry, VI, '13, who became on April 24 the proud father of Robert Berry, the first of this brand of berries. Last month I saw Dick Cross, VI, '13, who was here on vacation (and business). I suppose you know them both! Professor Gunn, '05, and his wife were down here from Prague, the last week of March and expect to come down again in June. — Gordon Fair and his wife stopped in to see me on their way to Geneva where he is now associated with the sanitary engineering section of the League of Red Cross Societies. — Ed Stuart, XI, '10, and Albert W. Buck, VII, '13, are associated with this commission. — I almost forgot to say that Werlich, '15, is in town when he is not *en voyage* to Spain, England, Poland or one or two of the other countries to be found on a new map of Europe. You will believe what Cross said: "All roads from any point to any other on the continent pass through Paris."

Boggs Morrison, II, has again come to light. Here is what he says: "Yes, I have left the Scovill Manufacturing Co. and am now with the Mark Manufacturing Co. in Evanston, Ill., a subsidiary of the Steel and Tube Co. of America, as chief engineer. Yes, I find that the prairies of the Middle West constitute a larger field than the hills of Connecticut. No, I did not find Connecticut too dry, but being an optimist I figured that I could get along somehow, even on a prairie. Results have justified my conviction that a man can keep just about as dry as he pleases almost anywhere. While on the subject I might add a bit of advice for the younger generation, the sons of members of 1914 who will some day stagger under a heavy load at Tech. It is as follows. Under the old regime a man who sought a job with liquor on his breath was promptly and bodily ejected from the office. Now, however, the man who seeks a job with liquor on his breath not only gets it, but his employers strive to cultivate him socially."

H. L. Gardner, I, has moved from Springfield, Mass., to Bakersfield, Cal. His own letter tells the reason for the move: "As for my uninteresting self, am rounding out my fifth year with the Gilbert & Barker Manufacturing Co. Started as draftsman, then assistant chief draftsman, assistant to superintendent and now, as my family wanted to

live in California, I am in the sales organization. Am located in the center of California's oil — the Kern River fields. All live in shacks and drive Packards, wear overalls and eat square peas, so they won't roll off their knives. Business is good here. Working with Standard Oil Co. of California, my own company being a Standard Oil subsidiary. The true sign of friendship is an invitation to the still. To refuse in this country is madness (anywhere for that matter). A French rancher offered me a drink. I was doubtful whether to take a chance or not. I asked, 'This is good stuff, Paul? You have tried it?' 'Yes, she good, last night I drink so much (three fingers) forgot to milk the cows and water the mules.' Hope to be in New England next spring, *en route* to Europe. I hope I shall have the pleasure of seeing you, our friend Les Hamilton and other Class notables at that time."

W. A. Snow, II, has left the tire business, which probably accounts for its recent depression, and has gone in business for himself. He writes as follows: "About two months ago I decided that I would enjoy life more and capitalize my Technology training to a better advantage if I got into some business for myself. Consequently being acquainted with a Mr. O. A. Sandquist, a graduate engineer from Yale Sheff, and having worked with him while we were both in the employ of the Goodyear Tire and Rubber Company at Akron, Ohio, I felt, in fact, we both felt that we could make a success in the engineering and construction line. Taking the bull by the horns, we pulled stakes and selected Miami, Florida, for the seat of our venture. Miami is the most beautiful city I was ever in, and in the past eight years I have been in a good many cities. The city is expanding very rapidly and buildings are going up almost overnight, as it were. Sandquist is well known here, having lived here several years and also having done some construction work here. We are incorporated under the state laws of Florida and have each taken out a professional engineer's license. Business is booming! We have plenty of good work to figure on and feel confident that we shall soon land a good slice of the work. It takes some time, of course, to get known and to land the first job, but are we downhearted — NO! As for recreation, there are excellent salt water bathing, fishing, motor boating, sailing, hunting, tennis, base ball, etc. These sports are carried on all the year round. The weather is quite hot in summer, but a nice cool sea breeze is ever present, day and night, so that one does not mind the heat. I am certainly in love with the place and expect to make my permanent home here. Will try and drop you a line more often in the future."

Ralph Salisbury, IV, is in the east again. The following extract from a recent letter of his tells best of his recent moves. "Late in January I left Detroit for here and am working for Purdy & Henderson. For these three months we have been living in 'South Albany' the upper end of Manhattan, but move this week to Flushing, L. I. It will be a big relief to be back in the United States. However, in spite of my daily battles with the hordes of the subway I have enjoyed being here and seeing some of the one-time inmates of the Stute."

H. V. V. Fay, IV, who has spent most of the time since graduation in Europe or Asia is now back in New York City. The New York *Sun* recently carried a long write-up about him, and it is greatly regretted that there is not space enough in our column to quote this article in its entirety. Fay went to China in 1915 to teach in the Nanking University. When war was declared and American forces went to Siberia, Fay joined them and remained with them until their return. The following is from a recent letter from him, in which he describes his experiences in Siberia: "I hope a belated answer to your letter of December 29 is better than none at all. It was not allowing the fund of two dollars to accumulate that delayed me, but the fact that you asked me to write about my experiences in Siberia, which is impossible to do in an interesting manner without being verbose."

I composed one atom of an intelligence section of sixteen officers and as many field-clerks, which swept down on the unsuspecting headquarters of the Siberian Expedition from Washington, and subsequently tried to keep as busy as possible with nothing to do. There was a standing chestnut among the infantry officers that Intelligence Officer and intelligent officer were not synonymous terms. Headquarters, not knowing what to do with us, distributed us promiscuously from Vladivostok to Omsk in the sizeable cities — and in some that weren't. Harbin in Manchuria fell to my lot — fortunately, for there was plenty doing there. Feeling ran high between Russians, Chinese, and Japanese — in fact between most everybody and the Japanese. They used to average a good fight about once every month somewhere in Manchuria. Due to the dispersed markmanship, casualties were usually light. On one occasion a detachment of Koreans serving in the Russian

militia, through a misunderstanding arising after dark, got into a fire-fight with a company of Japanese. Both sides fired about twenty rounds; total casualties were one old woman wounded, who happened to be passing in an automobile. Once a Russian got into an argument with a Chinese cabman about the amount of his fare. Chinese and Russian policemen assembled; the arguments became more forceful, with the result that when the smoke cleared three Chinese and two Russians (including the chief of police of that district) had lost all interest in subsequent proceedings — and all for a nickel. Moreover we had a mock war between two of the Chinese military governors and summer campaigns carried on by the Hun Hutze, or Chinese bandits, against towns lying off the railway. One band of Hun Hutze would extract tribute from a town as the price of protecting it from another.

After the first year of occupation, headquarters was greatly reduced as a result of releasing men in for the war and I was recalled to Vladivotok and made engineer officer of the expedition. My duties were very onerous, consisting in doling out maps and looking wise — as any staff officer should. I believe the general had a sense of humor, for although I was sitting most of the time as president of the general court he also made me morale officer. But the only time he ever called me into consultation was in my capacity as mess officer, after he had just had a piece of cold ham for breakfast. During leisure moments I looked after Intelligence funds and Engineer Depot.

Last spring the expedition evacuated. After resigning and extracting myself from various accountabilities, I started for Moscow with a newspaper correspondent. We crossed the Gobi Desert of Mongolia in an automobile seven hundred miles in four days, to get around the Japanese who were blocking the line of the Siberian Railroad at Chita. Passing through Verkhne-Udinsk, then the capital of the Far Eastern Republic, we had several talks with Krasnostchokoff, the president, who had practiced law in Chicago for fifteen years under the name of Tobelson. At Irkutsk we entered Soviet Siberia. The *commisar* who conducted the execution of Kilchak showed the places of interest and told us all about it. His colleagues compared him to Americans — he was scarcely over four feet tall and full of 'pep,' in contrast to most Russians.

When we arrived in Moscow, the authorities were much perturbed at our having stolen in by the back door unknown to them, and therefore decided to deport us. Their decision was carried into execution, after allowing me a week to roam around Moscow, and it was with some difficulty that we disguised our satisfaction. Train service throughout had been good — for Russia — but living conditions were difficult. The first regular city we struck in Finland seemed almost unreal in comparison."

L. L. Travis, VI, who is with the Barber Asphalt Co., has been transferred from the Philadelphia to the Chicago office. Larry spends most of his time on the road, selling. — Our president, Buck Dorrance, writes that all is going well with him in the soup business at Camden, N. J. — Sousa Brooks, III, wrote from his office in New York that he would be unable to attend the April dinner, but for us to remember that he carries the best line of shovels on the market. — C. P. Ross, III, is back in Washington with the United States Geological Survey. He has been on a grand tour of South America. He went down through the canal along the west coast to Valparaiso, then across the Andes and Argentina to Buenos Aires. While in Bolivia a revolution was staged, but little harm was done.

A letter from F. B. Barns, VI, has been received telling not only of his own doings, but also of several other fourteeners. His letter in part is as follows: "I am sorry that I shall not be able to attend the Class dinner, for I am at present out in the wild and woolly and do not expect to return east for a couple of months.

For the past year, I have been out there in Defiance as resident engineer in charge of the construction of a quarter-million-dollar water filtration and purification plant. Hill & Ferguson, consultation engineers of New York, is the firm that backs me up. This work is nearing completion now and I am looking forward to returning home to New York before many more weeks have past. — J. Willis Hines and Ross H. Dickson are frequent visitors at our home in New York. You probably know that Jack is still with the American Telephone and Telegraph Co. and that Ross is doing development work for the Standard Oil. — Bob Moorhouse is production engineer with the Barrett Manufacturing Company of Philadelphia—at least he was the last time that I heard from him. — Francis Gilbert has left Hill & Ferguson and is now with the Rockefeller Foundation at Mound, La. — Harold Nightingale holds the title of chemist and bacteriologist with Hill & Ferguson. You see, 1914 has been well represented in the office of this firm."

F. P. Karns, II, writes from Franklin, Pa., that he is still in the transportation, quarrying, excavation and general rigging business. He also wrote, "Business is rather quiet in this neck of woods, which I understand is no local epidemic." — J. H. Currier, II, is back from his winter cruise. Joe is a lieutenant on the U. S. S. "Delaware." He left Boston on January 3, going first to Cuba, then through the Canal and down to Peru. — Between manœuvres with the Pacific Fleet and target practice, not much time was left over for sightseeing.

Ross H. Dickson, X, has been working hard during the past winter to get the New York fourteeners together, but has had little success. He sent out forty-two letters and only received seven replies from fellows who were anxious to get together. He tried a further follow-up scheme trying to get these seven to assist in getting the delinquents together. Only three of the seven replied. After further efforts with even less results, he dropped the proposition for the current year. What is the matter, New York? Why is it that successful luncheons and dinners can be held in Boston, while New York doesn't even wake up? There are nearly as many fourteeners in New York as in Boston. Perhaps the Volstead Act causes more hardship over there. Make a better try next year, and go one better than Boston.

All together now for a pleasant summer! Start the fall right by writing the secretary a letter while on your vacation!

Are you the man who forgot to pay his Class dues? Thanks, we all forget sometimes. Better late than never. Who is next!

ADDRESS CHANGES

L. S. Baird, II, 288 West Third Street, St. Paul, Minn.; R. C. Brett, II, 128 Shirls Avenue, Washington, Pa.; J. P. Burdick, II, P. O. Box 32, Wickford, R. I.; G. C. Derry, VI, Sharon, Mass.; L. B. Duff, III, 1104 Empire Building, Pittsburgh, Pa.; R. J. Favorite, II, 171 Thames Street, Groton, Conn.; A. J. Finks, XIV, 942 Rhode Island Avenue N. W., Washington D. C.; H. L. Gardner, I, 329 E Street, Bakersfield, Cal.; A. J. Hahn, VI, 1295 Vinton Avenue, Memphis, Tenn.; W. G. Hauser, VI, Oakville, Conn.; P. H. Hsu, V, 5737 Kenwood Avenue, Chicago, Ill.; A. W. Johnson, II, 159 Folger Street, Buffalo, N. Y.; W. E. Lucas, Jr., VI, Capt. of Infantry, Tank Center, Camp Meade, Md.; S. W. Merritt, 7 Warren Terrace, Newton Center, Mass.; E. M. Newlin, VI, 1317 Spruce Street, Philadelphia, Pa.; E. L. O. Patten, II, 1331 Andrews Avenue, Lakewood, Ohio.; B. T. Rauber, X, Room 1412, 52 Vanderbilt Avenue, New York City; A. C. Sherman, IV, 8 Cumberland Street, Boston, Mass.; L. W. Snow, I, Rochester, N. H.; W. A. Snow, II, 19 Gage Street, Dedham, Mass.; L. L. Travis, VI, care of The Barber Asphalt Paving Co., 1330 Tribune Building, Chicago, Ill.; R. H. Tuttle, II, 4705 Colfax Avenue, South, Minneapolis, Minn.; A. H. Waitt, V, First Lieutenant of Chemical Warfare Service, Edgewood Arsenal, Edgewood, Md.; J. E. Wood, IV, Captain Engineer Corps, Engineering Commissioner of District of Columbia, Washington, D. C.

1915

FRANCIS P. SCULLY, *Secretary*, 70 West Chippewa Street, Buffalo, N. Y.

HOWARD C. THOMAS, *Assistant Secretary*, 34 Floral Street, Newton Highlands, Mass.

If it weren't for two of our classmates who have come to with promised letters in the last two days and the usual crop of June brides, this letter would be a dry and sad affair. However, we have a little something to fill in the space and we hope that by the time that the next REVIEW comes out, which won't be until November, we will have received some of the long promised letters from our classmates who have had a wide and varied career.

Now to get the blushing brides and bridegrooms (for there are also June bridegrooms) properly catalogued. Mrs. Thomas and I received an invitation to the wedding of Marion Frances Bateman and Louis Harrington Zepfler, V, at Norwood, Mass., on June first. Louis had told us of his contemplated step and in spite of our advice evidently intends to carry it through. We were sorry that we could not attend but hope that everything went off per schedule.

We noticed in the Boston *Traveler* of March 23 an announcement of the engagement of Miss Gertrude Hamilton, of Roxbury, and Charles H. Bidwell, Jr., VI, of Stockbridge. The date of the wedding has not been set. From the picture which accompanied the article, Charlie is to be congratulated.

Simultaneously, with the receipt of cards from Evers Burtner, XIII, we saw in the Boston *Transcript*, of May 3, the announcement of his engagement to Mary Ellen Dubois Simmons '19. Evers, at present, is an instructor in naval architecture at the Institute.

From the New York *Telegram* of May 17, we note the fact that Miss Hope Johnson will be married to Charles Wyatt Williams, I, on June 15, at Spuyten Duyvil, New York. Miss Johnson was graduated from Miss Porter's School, at Farmington, Conn., and is a member of the Junior League. We wish to convey to all these enterprising couples the best wishes of the Class of '15.

Just to show that we harbor no ill feelings we quote the following from the *Public Ledger*, Philadelphia, of May 14:

"Dr. Greville Haslam, IV, has been appointed head master of the Episcopal Academy it was announced last night at the annual meeting of the Alumni Society of the school. Dr. Haslam, who is head master of St. Paul's Academy in Concord, N. H., will assume his duties here at the beginning of the new school year. He is a graduate of the Massachusetts Institute of Technology."

Greville was the one who wrote us the sympathizing little postal which we quoted in last month's REVIEW. Incidentally, no one has sent us any suggestions as to how to reply to his postal or that of Julius Kuttner. We are still waiting for these suggestions.

From the Washington, D. C., *Times*, of April 13, we glean the following: "Attempts to transfer objects from the ground to an airplane flying overhead will be made tomorrow at Bolling Field. A new type of plane designed for passengers and having a wing of variable camber, permitting a very low speed, which has just been assembled at the Fields will be used. The plane with a wing spread of 37 feet, is equipped with two Anzani motors giving a speed of 90 to 100 miles per hour. The machine takes off with a run of only eight seconds but has a low landing speed. It is known as the 'Huff-Daland,' after the names of the manufacturers. A number of preliminary test flights were made at the field yesterday, following assembly of the plane. T. H. Huff, II, of the Massachusetts Institute of Technology is in charge of the experiment. C. M. Devitalis is pilot." Incidentally, Tom has not returned his questionnaire and dues as yet.

From an advertisement of the New England Telephone and Telegraph Co. in the Boston *Herald* there is quite a plea for selling by telephone, quoting the success of T. A. D. Fessenden, VI, treasurer of the Union Chemical Company. In the letter quoted, he says, "The bulk of our business since the formation of our company has been obtained by telephone solicitation. Our experience has shown us that selling expenses for personally solicited business exclusive of salary amount to no less than four per cent of gross sales. The actual cost of our telephone salesmanship has been less than four-tenths of one per cent." This interesting information may be of service to some of the other members of the Class.

Stanley M. Baxter, III, who is with Douglass Lawrence Company, at Santiago, Chile, writes as follows: "You will no doubt notice that I have changed my occupation. The company with which I am now employed and of which I am a partner is a holding, operating and consulting firm. My post is that of examining engineer and geologist and I believe a very interesting one. I have now covered Chile in a general way from the extreme north to the northern part of the channels in the South. The work has given me the opportunity of observing many very interesting facts. Inasmuch as most of these are connected with reserved information it is impossible to do what I would like to do very much, that is, to publish some of them. I have also visited Peru and Bolivia and find them also very interesting. Business in this country seems to have reached the lowest ebb that it is going to and times are getting considerably better here. Considerable interest is being shown in mining and companies which last fall had to close their doors are now opening up again. Personally, through it all, I have been very fortunate and have at no time been short of work."

Yesterday, June 13, we received a card from Raymond O. Doane, I, who is with the Atlantic Coast Line Railroad, saying, "May see you next month. Dinger."

Edward Schoeppe, IV, writes as follows: "Will you kindly note the change in my business address on the Class roll from 1420 Chestnut Street to 315 South 15th Street,

Philadelphia. I have opened an office of my own for the practice of architecture and structural engineering and whereas business at present is a minus quantity, the outlook for the near future is very good."

Von Fong Lam, XIII-B, writes as follows from China: "I was very much pleased in receiving your circular to know that everybody is doing his part to keep 1915 alive. Enclosed please find check for \$2 for my annual dues to the Class of 1915. I have misplaced the card you sent me so I am giving you the following information in this letter:

Home address, 183 Dixwell Road, Shanghai, China; business address, care Lam, Glines & Co., Inc., 4B Peking Road, Shanghai; nature of business, engineer, contractor, and commission merchants; married; one baby boy. Hoping the above information will assist in compiling the necessary data, I am, with best wishes, —" As he has a New York office and a Baltimore office it looks as if his business were prosperous.

The following was received from the secretary, who is still at Buffalo.

"Dear Howard:

You are indeed to be complimented upon the Class notes in the last issue of the REVIEW. They are by far the best that the Class has ever had and show the result of some earnest effort. I fear that Mrs. Thomas is probably responsible for some of this success.

C. Loring Hall called me up about three weeks ago, he being in town for a day on business with Pierce Arrow Company. He came down to the University Club for dinner and we spent an evening talking over 1915 and our many friends. Loring is evidently coming along in fine shape, his position as head of the New York office of the Carr Fastener Company giving him a suitable opportunity for initiative.

Wellsville is a little town about ninety miles from Buffalo, and there Bill McEwen, II, holds forth as one of the leading citizens. Bill is now president of the Business Men's Association and was threatened with political honors, but I believe gracefully declined. He is president of the McEwen Brothers Company who build boilers, Diesel engines and have a large foundry in addition. Bill married a Simmons girl and that combination always works out well. I spent a very pleasurable week-end in Wellsville and Bill wanted me to make sure to have any 1915 men in that part of the world look him up.

Fred Cook is located with the Buffalo Belting and Weaving Company and evidently prefers Buffalo to Akron. He, K. E. Engstrom, II, A. H. Sampson and myself constituted the 1915 delegation at the Buffalo Tech Club dinner. Engstrom, though graduating in '16, is inclined toward association with 1915 and though he had his dues for 1916 ready to mail I think that he will realize his terrible mistake and forward you the necessary check very shortly. Our esteemed classmate Sampson was elected president of the Buffalo Tech Club and a very successful year is expected under his regime. As for myself, I am working pretty consistently and probably will be up here through the summer at least. Business is coming along in pretty good shape and we have pretty nearly covered the United States with our distribution. We are starting an advertising campaign in the *Saturday Evening Post* beginning in June and I look for this to bring considerable results.

I am trying to get home this week-end and if so will surely see you, as I have been rather unfortunate so far in that respect. Sincerely, Frank."

Our former Class secretary, Bill Spencer, sends the following:

"Dear Tommie: I have just received the enclosed literature from the Stute, and am forwarding it to you to do with as you wish. Perhaps there may be some ideas to be salted away for our future questionnaires.

I hope things are going well. Business is rather quiet with only a few bright spots here and there. With best regards to all."

The enclosed literature was a questionnaire gotten up by 1911 for their 10-year book and as we are due to have our book in four years it will probably come in very handy.

It evidently helps to knock some people publicly in the REVIEW for we received the following very interesting letter from E. S. Coldwell, VI, more popularly known as "Jerry":

"Dear Howard, I meant to write as soon as I received the issue of the REVIEW in which you panned hell out of me. The funny part of it is that damned if I don't think that you may be right. There is much more of a chance, however, of you getting news round Boston than there is of me gathering any down here.

I am enclosing a clipping from last Sunday's New York Times referring to Sid Clark, II, who flew one of the planes in the recent police parade in New York City. Sid is a

lieutenant in the New York City Police Reserves and has a nice uniform, commission and everything. That may possibly account for some of the late hours that he keeps — but I doubt it!

I am with the Columbia Graphophone Manufacturing Co. in Bridgeport, Conn., and have been here over a year now. This is a damn poor town — 78 per cent of the population is foreign and you wonder where in hell the other 22 per cent keep themselves. I am living at the University Club with F. W. Barney, II, 1919, who is also with the Graph. Don't change my mailing address though, as I go to New York every week and usually take the same train down every Saturday noon and back at midnight Sunday night. The reason that I come back that early is that that is the last train. Pass the time of day with the conductor and all that sort of stuff just like a regular commuter.

Here with the Graph, I did have charge of the mechanical and research engineering section but about two months ago I was transferred to special work, reporting directly to the head of the factory. When we are going strong (or rather were going strong) we turned out *daily*, about 4,500 Grafonolas, 270,000 records and 100 dictaphones, which, everything considered, is a hell of a lot of Grafonolas and records. At that time there were about 12,000 people on the factory payroll. Naturally, we are not doing that at present, but we'll be back there again sometime.

Personally I am not married, neither do I expect to be so far as I know. I wouldn't go so far as to say that I wouldn't be fool enough to do it some day, but the horizon is clear at this time.

As to news of the Class, I can't give very much. Hank Marion, VI, is on the Continent somewhere in the interests of a copper products company. He has been over for about a year now.

In looking over some of the suggestions I think one of the best is the idea of sending out a slip every now and then which would show the last address of each member of the Class. After this was once made up it would not be very expensive to maintain it. The addresses could be made up in a lino- or mono- type slug and then hold the slugs. They could be reset and locked up everytime that a new list was made. If there had been no change, the old slug could be used and if there had been a change a new slug could be made and the old one thrown in for remelt. Another way to do this would be to have ordinary addressograph stencils cut and held in file. This is the way that the Stute keeps its addresses up to date. You might be able to make some arrangement with the Stute whereby they would cut the stencils for a small sum and then run them through whenever you wanted. They could be filed away in an ordinary box. Most large mailing lists that are subject to change are handled in this latter way.

Best to you and the family. — *Jerry.*"

We are glad that Jerry came across and he is forgiven.

Otto Hilbert, II, who is never backward about giving credit or doing his part to help things along, writes:

"I wonder how many noticed that '15 had the most Class news in the April REVIEW? As one of a great many who seldom come in contact with any of the bunch except through the Class news, I want to congratulate you on your good work (emphasis on the *work*). I have not enjoyed reading anything as much as I did the notes and letters in the News for a long time.

I was sorry that I did not meet more of the Class at the meeting of the American Chemical Society at Rochester last month. A Tech dinner was held the first night, but there were very few there that I knew. It may be of interest to know that a committee was appointed at that dinner to arrange for a Tech dinner at every meeting of the American Chemical Society. Professor Talbot gave a talk and it took me back to my freshman days, sitting in the bleachers in Lowell, watching green liquid turn colorless, etc., but something was missing. Professor Talbot must have forgotten to transfer the carnation to his dress suit when he changed his clothes that evening.

I had a letter from Von Fong Lam about a month ago. He states that his firm is engaged in engineering work but that business in general there is very dull. He refers proudly to his son.

Keep up the good work, Howard, and remember me to all you meet." Letters like that help a lot.

Jesse Potter, I, who is at Riverside, Ill., wrote to Waldo Pike and Wallie passed the letter on. — "Since I last had a chat with you on Boston Common, during the war, much

water has run under the bridge. I have flitted with the stream with others in search of a steady job that held out some promise for the future, but as yet have not found that for which I have so long sought. On my discharge from the service I went to work for the Burlington Railroad in Chicago in the valuation department, but as I got in at the end of that work I found that I would soon be out of a job, so I then connected with the Concrete Engineering Co., same city. There I labored for six months at the pay you got at the Bridge Works until the building slump hit the city and all the businesses *went auf dem fritz*, as it were. So having nothing else to occupy my mind, I spent the summer as agent for the International Correspondence Schools, which was a good job until last winter. My next flop was with the Western Electric Company, where I am now in the engineering department. I am engaged in the writing of specifications for jobs — not much brain work, but rather particular and the work stretches twenty years into the future, as we are now changing all the big city exchanges over into machine switching offices. That does away with the necessity of operators and all you have to do to have a speel with some one is to run off the numbers on a dial at the base of the phone — the connection being made automatically by machine. It is all right if one likes that sort of work, but for my part, I am hankering for a real engineering job." [So are we.]

There are several small items which we have picked up here and there, which are interesting.

Charles A. Calderara, II, (Shorty), added to his family through the advent of Alice Mae Calderara, born August 14, 1920. — Gus Caffrey, who was with the Corrugated Bar kept the news of the arrival of his heir very quiet until pressed for information — Andrew A. was born October 2, 1920. — H. Whittmore Brown, IV, told us at the last luncheon in Boston that Marjorie Patricia Brown had arrived the day before. — On a business trip to Providence the assistant-secretary called on Charlie B. Maguire, who will be well remembered by those of us who were at the summer surveying camp as one of the leaders of "Murderers' Row". Charlie is carrying on the business, contracting, of his father. He is married and has a daughter, Mary, three years old. — We neglected to add to Jesse Potter's letter that John Sargent Potter arrived in November, 1920.

Many of the members of our Class have developed a literary turn of mind, as noted by the articles which have appeared in the technical press lately. In the *American City*, George W. Simonds, Jr., II, has a very interesting article, entitled "More Public Convenience Stations Needed." — Ned Stelle, I, bobs up again in the *Engineering News Record* with tables and charts to explain his article "Pavement on Curves Widened by Ring Method." — Jim Tobey, II, our noble cheer leader, has written several articles for medical and public health magazines, the latest being "Some of the Engineering Aspects of Public Health." — We note from the *Engineering News Record* that Howard L. King, I, is an engineering inspector on the Hudson River Vehicular Tunnel.

We ran into "Pick", christened Harold Bailey Pickering, I, at the inauguration of President Nichols and we appealed to him for news and his answer follows: "Your pathetic plea for news has so softened my adamant heart that I am at last communicating with you. Business with me is fine. I am selling stock in the Carlisle Tire Corporation (factory, Stamford, Conn.). In a month or so, as soon as the little bit left has been sold, I expect to start serious work in the engineering department. Our tire has several features found in no other cord tire in the world, that is, rubber lining, eighth-inch cord, cords passing continuously around the bead wire, and at least twice the strength of any other high-grade tire. We admit that our tire is the best made and prove that claim with orders amounting to 90 per cent of our full rated annual capacity. All this has been done without an advertising campaign. Our adjustments for over a year have averaged less than one per cent, which is far less than the normal record for other concerns. Our net profit today is running higher than three times our preferred stock (8 per cent) requirements and we look forward to at least 20 per cent dividends for 1922. Seven basic patents embracing 73 claims protect us from competition. I have invested all I can scrape up and will explain the proposition in full to any one who cares to inquire. I can also tip off any embryo salesman as to where they can make a good connection. Tell any of the fellows who may be interested to write me. Is this too much? — if so, feel free to cut it all you please."

When we get a letter like that we don't do any cutting. Pick's address is 76 Bennett Avenue, Arlington, N. J. We think we will get in touch with him and see if we can locate a job.

Joe Livermore, who has been resident engineer for Lockwood, Greene & Co. on the

New Departure work in Connecticut, has finished up and returned to the Boston office. Joe's vacation, indefinite in extent, starts July 1, so if you know of any one who wants a good outside man let us know. The assistant-secretary, who also has been with Lockwood Greene & Co. in the Boston office, classed with Joe in drawing an indefinite vacation, only his started June 4. As yet, we have not been able to locate a satisfactory opening, so if any one wants to hire a man who can qualify from general manager down to office boy, we would be pleased to hear from you. Applications for services will be filed in order of their arrival.

Joe and I took in the inauguration dinner at Walker Memorial on June 8 and out of respect for us they sang "Smile a While", "Keep the Home Fires Burning," "A Long, Long Trail", "Pack Up Your Troubles" and to cap the climax the orchestra played "Miserere". It cheered Joe and me up wonderfully.

The exercises in the morning were very fine and Dr. Nichols seemed to make a very good impression on every one. The after-dinner speaking in the evening was also very good and we hope that the various addresses which will probably be printed elsewhere in this REVIEW will be read by all.

The 1915 men present at the inauguration dinner were Fiske R. Jones, II; J. M. Livermore, I; A. D. Beidelman, XIII; H. W. Brown, IV; George T. Rooney, I; Daniel J. Danker; H. W. Lamson, VIII, and myself. We tried to hit George up for a job but without success. He said he had enough trouble looking out for his wife without having me hanging on his hands.

As we said in the last REVIEW, H. W. Lamson promised to write for us some of his experiences in his work. We hit him up again at the dinner and he promised to get it out over Sunday and it arrived this morning from the Croft High Tension Electrical Laboratory, Harvard University, Cambridge, where he is now located. We are quoting it in full just to show you that this is the kind of a letter we like to receive and we are sure you will all be interested in reading it. We thank Horatio for spending his time to help us out.

"Dear Howard, You are a persistent cuss, which is a darn good thing for '15, so I suppose it is up to me to come across. My gosh, but we are getting ancient. Six years seems a shorter time, looking backward, than is six days-to-go on the twenty-fourth of the month. You know how 'tis, Howard, with us paid-by-the-month engineers. I am not keen on tooting my own horn, but I certainly am strong for your idea and I trust that the rest of the crowd is likewise and will let us hear in more or less detail what mischief and other tactics they have been up to since that once-in-a-life-time day when we first unrolled our sheepskins (to see if they printed our names correctly). There surely have been strenuous days since then (with prohibition 'n' everything) so us "leading engineers" ought to have some mighty good yarns (printable) to spiel over the empty steins. Here's hoping.

Directly after graduation, Joe Knowles and myself spent three weeks canoeing in the wilds of New Hampshire and then I began my "probational career". This consisted in a summer in the laboratory of the Western Electric Company, in Gotham, followed by eight months back at the Stute expounding Boyle's Law in the Phiz Lab and docking the '18 absentees in Professor Cross's lectures. You remember how 'twas, Howard. Thereafter came a summer's job with Arthur Ball and Easty Weaver in the laboratory of Kalmus, Comstock & Westcott where — soft pedal, please — I moved in the mysteries of filmdom and labored with the perfection of Technicolor Pictures. The work was, however, strictly chemical and optical in its nature and quite devoid of those 60-foot finale close-ups 'n' everything like that. For the next eight months (shades of 'Ology be merciful!) I sought information on divers matters physical with the 'Arvard rah-rah boys and so finally taking an A.M. there in June, 1917, I felt I was at last ready for the big job then up to every man of us, — the war.

Working twelve hours a day in the radio laboratory of the Boston Navy Yard proved to be so profitable; that in the following October, I ventured to take on a partner in my domestic concern. D'ja ever take two days off to get married in, Howard? Try it some time when you're busy. The work at the Yard consisted mostly in the testing of vast quantities of radio apparatus and materials which the Navy was then purchasing in truly wholesale fashion — war contracts, you know, Howard. We were in a way the watch dogs over the Navy's radio and our slogan was 'only the fit shall survive'. Many were the Leyden jars and mica condensers I punctured in rigorous acceptance tests much to the chagrin of certain manufacturers. Better, however, that they break down on my

laboratory table than at some critical moment overseas. When once certain tests had been worked out and standardized this work became very largely routine in character so that after thirteen months, I felt that I had had enough of a civilian war job and was glad of an opportunity to join Professor G. W. Pierce (under whom I studied at Harvard) at the Naval Experimental Station, New London, Connecticut, and at the same time to don the uniform of a C. P. O. in this man's Navy.

At New London, the Navy Department had engaged a number of eminent scientists and engineers to devise and perfect various 'gadgets' for combatting the submarine menace. The civilians were supplemented by a good-sized naval personnel. The work was pursued with extreme secrecy, so that the public little realized the vital importance of what was being done in a small abandoned factory and a few outbuildings located on the banks of the Thames River. It is unquestionably true that the work of this station did much to accomplish the ultimate defeat of the U-Boat campaign and to break the morale of the Hun pirates. So it came about that I fought in the 'battle of New London' during the closing months of the war. In those days the old town was considerably overcrowded and, life in a boarding house proving a dull existence, my better half also enlisted in the service and we became companions in arms, a somewhat unique and happy experience.

One of the principal anti-submarine devices was the hydrophone, an instrument for locating submerged U-Boats by detecting the noise emitted from their propellers and engines and transmitted through the sea which, in comparison with the atmosphere, is a most excellent medium for the propagation of sound energy. There were several earlier types which, although they had their defects, were very effective and frequently 'spotted' the Kaiser's subs at distances of several miles and aided our sub-chasers in running them down and giving them the *spurslos versenkt* with one of our neat little ash cans. The more modern apparatus upon which I personally worked was not perfected in time to have actual service overseas. This remarkable 'gadget', which is known as the multi-unit or M. V. Type of hydrophone, consists in general of two lines of twelve equally spaced microphones. These are mounted — one on each side — below the water line and either beneath a protective 'blister' outside the skin of the vessel or sometimes within a forward water tank. The microphones are connected with an instrument known as a 'compensator', which serves to artificially retard the individual wave impulses from each microphone by just the proper intervals necessary to bring them into coincidence and in this manner to determine the pelorus bearing of the source of sound observed, that is, its direction with respect to the keel.

Before the war there was in common use on the merchant marine a type of hydrophone by which directions of underwater sounds could be determined. This apparatus, however, required the navigator to 'swing ship', that is, to point the bow of his vessel towards the source in order to locate the same. With the modern apparatus and the invention of the compensator, sound sources can be located at any bearing with respect to the keel, thus avoiding a bothersome and sometimes dangerous shift in the course of the ship — a very obvious advantage.

In the spring after the armistice one of these modern '12-spot' hydrophones was installed on a large Navy transport engaged in bringing our men back from France. This equipment proved to be of great value in ordinary navigation. Submarine light-ship bells could be accurately located at ranges of thirty to forty miles. Other vessels could be heard at distances sufficient to avoid collision — frequently at several miles in shallow restricted waters. It was at this time that the remarkable discovery was made that this type of hydrophone could be used to take soundings. With the microphones in the bow of the ship and propeller in the stern all the audible sounds from the latter have been reflected from the sea bottom. The hydrophone is capable of measuring the vertical angle of this reflected sound ray, which angle, together with the propeller-microphone base line, determines the depth of water under the ship. Consider what this means. When navigating in shoal or restricted waters with no visible beacons for guidance, instead of steaming at greatly reduced speed and incessantly 'heaving the lead', a cumbersome, dangerous and often uncertain procedure, the hydrophone observer can, by taking 'settings' upon his own propeller noises, call out every ten seconds, if desirable, the depth of water beneath the vessel, which may be steaming ahead at full speed all the while. These hydrophone soundings may be obtained with good accuracy up to depths of about three times the length of the vessel. It is, of course, only in such shallow water that the question of depth is ordinarily of any concern to the navigator.

An instance will perhaps illustrate the value of this equipment. The above-mentioned transport returned from Brest on one trip in continuously foggy weather so that navigation was by dead reckoning with no opportunities for checking the same. It happened that she was actually somewhat to the north of her supposed position as she approached the American coast. Hydrophone soundings, together with a simultaneous bearing upon the submarine bell of the Nantucket Shoals Light-ship thirty miles away, afforded the navigator with a 'fix' of her true position and enabled him to shift his course and make a safe and satisfactory approach to Ambrose Channel. Similar experiences have been repeated time and again. I have taken hydrophone soundings many times but never has their value been impressed upon me so forcibly as on one night when, aboard one of our submarines we navigated across the Nantucket Shoals in a fog so thick that the bow was invisible from the conning tower, steaming at full speed through the blackness and knowing by the aid of accurate hydrophone soundings our exact position at all times during the long night. Thus the hydrophone, born as an implement of war, has proven to be of great advantage to man in his pursuits of peace as contributing in no small measure to one of his vital needs — safety at sea.

I remained in the Service at New London until August, 1919, and when, shortly after this, the Naval Station was closed I went with the work in a civilian capacity to Annapolis, Maryland, where I stayed until June, 1920. That year witnessed a continuous advance of the art and I had many interesting experiences, among which was a six-week sojourn at Pensacola, Florida, with a fleet of our destroyers. Here much success was attained in communicating between distant ships through the sea by the use of 'oscillators', the distant sounds (Morse code messages) being picked up with the hydrophone apparatus. In this way we have an auxiliary to the radio. Other uses suggest themselves. It is expected that this device can be used to locate icebergs by detecting sounds reflected from those huge submerged masses of ice. The whole art is still in its infancy, but it promises to be some child! It was my good fortune to become associated early with the work and I believe that it offers an interesting and valuable field of endeavor.

During the last year I have been associated as hydrophone engineer, with the Steward Davit and Equipment Corporation of Hudson, New York. My work has, however, been here at the Cruft Laboratory, Harvard University, where I have been chiefly engaged in perfecting the compensator and in the construction of new hydrophone apparatus, both for the Navy and for the Coast Artillery.

Well, Howard, this has been quite a long-winded spiel, hasn't it? You know I used to write filler for *The Tech*. Perhaps that is where I got my training in slinging the bull. Now let some others of the bunch pull a similar toreador stunt. Yours for old '15."

After we had sat up till the wee small hours to finish the above letter and had pinned on Horatio Lamson's sheets to the last page and had gone over to the post office and mailed it so that it would be in the editor's office by the fifteenth, as required, and had gone to bed with the knowledge that that was over till October, the first thing we found this morning when we got up was a letter from McCeney Werlich from Paris. Mac is another one of those who have taken to heart what we said in the REVIEW and has come across with a letter to help us out. He writes as follows:

"Sure you have the kick of a mule and you are kicking a few lines out of me as the result of your footnote to my letter as published in the April TECHNOLOGY REVIEW. Never realized how abrupt my note to you was and I'll admit that I should be ashamed. Not often that you find a 1915 artist so contrite, eh what? Articles 'made in Tech', 1915, productions are rather rare. I've seen practically none since the A. E. F. cleared out. Sorry I cannot give you a story on any of our vintage. I love to talk about myself — always did, you know. Well, sailed over here in 1915 as a civilian and erected locomotives for the French government. Went into uniform in September, 1918, second lieutenant, infantry — detailed to the liaison service and lent to the general commanding the eighteenth French region. Resume. Fought the battle of Bordeaux (red is the best) from the end of 1917 until April, 1919, with one summer at the seashore in Brittany (St. Nazaire).

April, 1919, I was considered big enough to wear long pants and have been peddling locomotives ever since. My territory consists of the whole of the continent of Europe (civilized and not at war). Good sport. 75,000 Kilometres in Wagon Lits and other contraptions built to suit people longitudinally, 3 feet 6 inches instead of 6 feet 3 inches. Had rather good luck and became quite puffed up until early this year when the Germans gave me an awful spanking in Spain. They grabbed the whole of a 119 locomotive order

from the Spanish government. And so life rolls merrily on. When I am not trying to sell engines I am making a study of the best restaurants in Europe and have been through Africa and if any of the 1915 crowd want gastronomic advice they should apply to Mac Werlich. By the way, don't kick a fellow when he is down, for on Boylston Street I was known as Mac rather than as McEney."

For the benefit of the Class, the Class news has to be in the fifteenth of the month preceding the publication of the REVIEW which means that the next issue will close October 15, so let's have some good letters for the November REVIEW.

1916

CHARLES W. LAWRENCE, *Secretary*, 85 Islington Road, Auburndale, Mass.

E. H. CLARKSON, *Assistant Secretary*, 4 Story Street, Cambridge, Mass.

"200 IN 1925"

FIVE-YEAR REUNION. Sixteen's five-year reunion has come and gone. Those fortunate enough to get back to revive the old friendships of Rogers Steps, Engineering A and Engineering B, were of the universal opinion that the reunion was a distinct success. Never before has 1916 met under conditions so favorable, so attractive, so conducive to a good time and good fellowship as those obtained at delightful Cotuit Inn on old Cape Cod.

It is to be regretted that not more than thirty-five could get back, yet with the realization that the present year is one imposing conditions of strict economy on each one of us, we all felt that even that number was satisfactory. The weather man was with us from beginning to end, for although he threatened us with a terrific downpour late Saturday night nothing could dampen the life of the party, and the sun came out again early Sunday morning.

Most of the fellows were unfamiliar with the Cape; and took advantage of the opportunity to drive to Cotuit in cars. They were all agreeably surprised, for instead of finding the Cape a bare strip of wind-swept sand jutting out into the ocean, they discovered a delightful summer playground traversed in many directions with excellent roads, heavily wooded and spotted with fresh-water lakes. Here and there along the indented shores are cleanly little villages, and delightful bays. Cotuit itself is at the head of a large land locked bay on the South Shore, and as one sits on the generous porch of the Cotuit Inn, he has an unobstructed view out to the sea. As soon as a member of the party arrived, he proceeded to shed the dusty city togs in favor of shirt and flannel trousers, or sport suit, and went to the tennis courts in the rear of the Inn, or took a swim in the bay. Needless to say that the still warm waters that make the Cotuit oysters justly famous are ideal for swimming, and this was the most indulged-in sport that week-end.

The trip over the roads in the salt sea air had whetted some powerful appetites, and when the dinner gongs sounded at six, even a thrilling game of African golf on the front walk broke up with unbelievable speed, but not before Hovey Freeman and Saul Makepeace added to their laurels as successful financiers. Dinner itself was a most welcome feast of delicious sea food, from real Cotuit oysters not two hours out of the water to whole broiled live lobster and baked fish, with "all the trimmings" which Cape Codders know so well how to prepare. During the dinner, golf and tennis tournaments were arranged for, to be played next day, and various members more or less humorously inclined tried to enliven the party by witty(?) speeches. However there was no lack of good humor and fun, as the noise of the conversations showed, at reminiscent anecdotes of how Rusty White cut the blueberry pie with a hammer, or Hovey Freeman tamed the Yellowstone bears, or a score of others, about the old Stute, Summer Camp, or the Union.

During the remaining daylight hours of Saturday, most of the fellows renewed their youth in earnest by playing games like "egg-in-the-hat" and "hot hand". At both games S. R. Berke, our successful Boston consulting engineer, starred, although Charlie Lawrence and Rusty White were strong runners up. The gallery enjoyed the fun and foolishness quite as much as the contestants.

Then followed a more serious part of the reunion, a business meeting. Opinions were freely expressed in regard to all the past activities of the Class, and some definite

plans and policies outlined for the future. About the first of these was a motion to provide for the financing of the Class business and the next reunion. The following motions were made and passed:

"Moved and seconded, That the constitution and by-laws of the Class of 1916 shall be \$1.00 a year, commencing January 1, 1921, and that the dues shall be payable January 1 of each year." Passed.

This motion is to be interpreted that all who have responded to the secretary's recent call for funds shall be credited with 1921 dues.

A second motion was passed to establish who should be carried actively on the secretary's personal Class rolls, to receive all of the news, and Class correspondence, etc., and the following motion was passed:

"Moved and seconded, That all members paying dues shall be carried 'in good standing'. If a member fails to pay Class dues for five years, he will automatically cease to be a member 'in good standing', and will be so notified." Passed.

Under this motion every member of the Class is considered 'in good standing' as is shown by the rolls of the Alumni office, or as affiliated with 1916, beginning January 1, 1921, for the next five years. The money received is to be used largely for the current Class needs, and a fund for the next reunion.

The next reunion was the most important thing to get settled, and is set for 1925, by the following motion:

"Moved and seconded, That the next reunion of 1916 be made to coincide with the general Alumni Association reunion in 1925." Passed.

This will bring the next reunion only four years away instead of five, but it was universally felt that it would be a far better time to hold a reunion when the general alumni body is assembled and other Classes will be together and we can transact business in concert with them. To make this reunion an even greater success, especially to get more of the Class together, the meeting adopted the slogan for the Class of "200 in 1925" and out of some three hundred odd members, we aim to have at least two hundred present. So mark your calendar for 1925 now and plan to be there, with the wife and family and all the rest.

The remaining motions had to do with the making it necessary for the persons who hold the office of Alumni Council representative and secretary-treasurer to be men from the Boston district.

The remainder of the evening was spent in card games, dancing and chats about the fireplace until the wee small hours warned us to get rest for the tournaments of the morrow.

Sunday morning dawned cold and rainy — but nothing could check our early-morning sportsmen, for nearly a dozen took a swim in the bay before breakfast. Breakfast was over by eight-thirty, and the sun had burned the clouds away, leaving a most glorious June day, with clear sky, fresh foliage and a stimulating salt-sea breeze. The tennis tournament got under way early, and almost everybody managed to get in a game or two. Prof. R. E. Wilson, who now is a member of Tech's chemical faculty, and Tom Berrigan apparently were the victors. Both play a clean fast game and furnished the spectators with many thrills. Rusty White and Ralph Fletcher were reported to have given a remarkable game of croquet, in which both showed excellent form and "stance".

The golf tournament was full of thrills and many hard contested holes. It was arranged as a "kickers tournament", that is, every one named his or her own handicap before starting, then at dinner the winning score was to be drawn from a hat by a disinterested(?) party. One thing remarkable about it was that almost every one was far too modest in handicapping himself, although some fine scores were turned in. Mrs. C. S. Makepeace won the tournament with a net of 44 for 9 holes, and was awarded an appropriate prize. Among the other notable contestants were Arvin Page and Saul Makepeace, who turned in scores of around 90 for the course, while Claussen, Edwards, Fletcher, Hovey Freeman, and Kenney turned in scores of 100 or more. The tournament was held on the Seapuit Links, a few miles from Cotuit. As the course was strange to us, and there was some difficulty in keeping score, Charlie Lawrance proved useful as fore-caddy to scout out the many turns in the links. It would be useless to describe the playing of the contestants, how Saul Makepeace contested the course with Arvin Page and Mrs. Makepeace, how Hovey Freeman ascended "Bunker Hill" on high with only one shot, or Ralph Fletcher sank a thirty-foot putt, or Sandy Claussen enriched the swamps with many a good golf ball. Suffice it to say, "It was some game."

We have this on the authority of Sandy Claussen: "During one round we came on a large snapping turtle which weighed about fifteen pounds. Arvin Page had lost his ball, and saw the turtle swallowing it, as a snake does an egg. He made a poke at the monster with his mid-iron, when the turtle made a snap at it and put a dent in the club nearly an eighth of an inch deep. The ball was not recovered until the turtle had been dispatched."

⚭ Sunday dinner was the best meal of the day, when the party sat down to an eight-course dinner. Cy Guething and his wife had arrived during the morning in their good old Henry from Williamstown and Exeter. They received a royal welcome. The dinner was just like a real old time get-together. The whole crowd joined in singing "Take Me Back to Tech," "The Cardinal and Gray," "On Rogers Steps" and many others, including the war songs, and "Auld Lang Syne." At the conclusion of the dinner every man stood and paid his tribute to Old Technology and her leaders as we sang the "Stein Song." The party broke up all too soon, for many had to leave early to make the long trips home, so that by late afternoon there were barely a dozen to take a last swim and have supper at the Inn. The day was closed by "Old Sol" himself with a most magnificent sunset reflecting yellow, crimson and cardinal against the great masses of gray clouds on the western horizon.

The following were present. A more complete account of each will appear in a future article.

S. R. Berke, T. A. Berrigan, F. W. Bucknam, H. P. Claussen, E. A. Edwards, S. M. Ellsworth, R. A. Fletcher, H. Freeman, J. Freeman, C. H. Holmberg, F. S. Kenney, A. E. Kleinert, C. W. Lawrance, A. C. Lieber, A. Page, T. E. Raymond, W. V. Reed, J. D. Robertson, H. B. Shepard, R. H. White, G. P. Allen and wife, M. H. Rood and wife, R. E. Wilson, wife and daughter, C. S. Makepeace and wife, C. T. Guething and wife, Miss Barry, Miss Gifford and Miss Worthington.

From Russell H. White we have the following interesting version of the Class reunion and his trip to Boston:

"Dear Gang: Just a general letter to my Class, with as much personal information as I can shoot; or rather with as much dope as Tubby Rogers will let me get away with. *Primus*. Came way on from Seattle, Wash., to our reunion. Am on the third year of a consulting engineering practice in Seattle, and, thank heaven, I can say that I am past that stage of the game where one says that business looks favorable; but instead I can say it *is* favorable. Just invest in rail fare west and give it a chance and you'll find it's a good bet. *Secundus*. The trip on to reunion was well worth the price. Here is where I digress for a minute to mention that I routed myself via Denver and Rio Grande. This route was chosen so I could see Pueblo and the Royal Gorge. Now if you'll refer to the papers you'll remember there was a little flood out there of considerable magnitude. This digression is to tell you how we first heard of it on the Denver and Rio Grande Railroad.

We had an observation car porter who was a card. For hours at a time he would entertain the whole car with stories. Just as we were nearing the Royal Gorge he drifts into the rear end of the car and says:

"Now folks, if you'll just stop that card game a few minutes and postpone that letter writin', I have a few words to say to you all which I reckon you all will be mighty interested in hearin'. Now you all think that there's track ahead of this train — but there ain't! No, there ain't no track for a hundred miles. And Pueblo, you all are goin' to be disappointed if you reckoned on seein' that town, 'cause it ain't no mo'. Yes sir, that town's all gone; and what's not gone is all on fire and under martial law. Yes, *sir*; there's thousands killed. The two trains ahead of us have never been heard from; yes, they both went into the river, and I reckon we're on our way. What yo' ask? What's happened? Just a little excess water in the river, that's all!" — That is the way we got the news of the flood.

In brief, they held up our train at Salida, Colo., for seven hours, then sent us on a 1250-mile detour, back to Salt Lake and around via Union Pacific. I've taken *some* detours in my life, and I ask you have I or have I not the record for 1916?

Back to the subject now. The Pueblo flood caused me two days' delay — but, hit Boston in time for reunion. It was a prize. We had everything! Everything from golf to turtle hunting. The committee we elected put the thing through right.

The one thing lacking was percentage attendance. We had a good crowd out, but

where were Chuck, Kitt, Tommy Little, Don Webster, Rogers Lord, etc.? Come on, fess up in the next REVIEW!

At the Class meeting, held Saturday evening during our Cape Cod party, we planned a perfect advertising campaign for our 1925 reunion. 'Two hundred or bust at the 1925 reunion' is our motto. That means that we middle west and far westerners must start a sinking fund *now*. Calculate the railway costs now, divide it by the number of weeks to June, 1925, use a slip-stick, and drop the right amount in a separate bank account *now*!

By the way! 1917 seems to think they are going to lick us out on Class notes in the REVIEW. Figure it out. Hang up the crepe on the mere suggestion and send in dope — for *each* number of the REVIEW. Send pictures, particularly for the photogravure section of the 1916 notes. Snapshots of yourself on the job! No matter where in thunder you are, beg, borrow or steal a camera and hire a coolie to take your picture. The Class demands it.

Ralph Fletcher drove me back Sunday night from reunion, and we had a boiling time. That is, the radiator acted like a Yellowstone geyser all night. Had to give it a drink every two miles. My job was chief cooling inspector, and every two miles I had to unscrew the cap and stand by while it shot heavenwards midst much hot shower. The second delightful duty was to relay tin cans of water from creeks in pitch dark to said radiator till it ceased belching.

Well here's how, and the 1925 reunion. — *Rusty.*"

The following news from the Class is universally interesting:

H. W. Green, XI, has been engaged in Bubonic Plague work in San Juan. His present address is Sanitary Engineer, International Health Board, Central Aguirre, Porto Rico. — Alex Bresth, XI, is professor of civil engineering at the University of Florida.

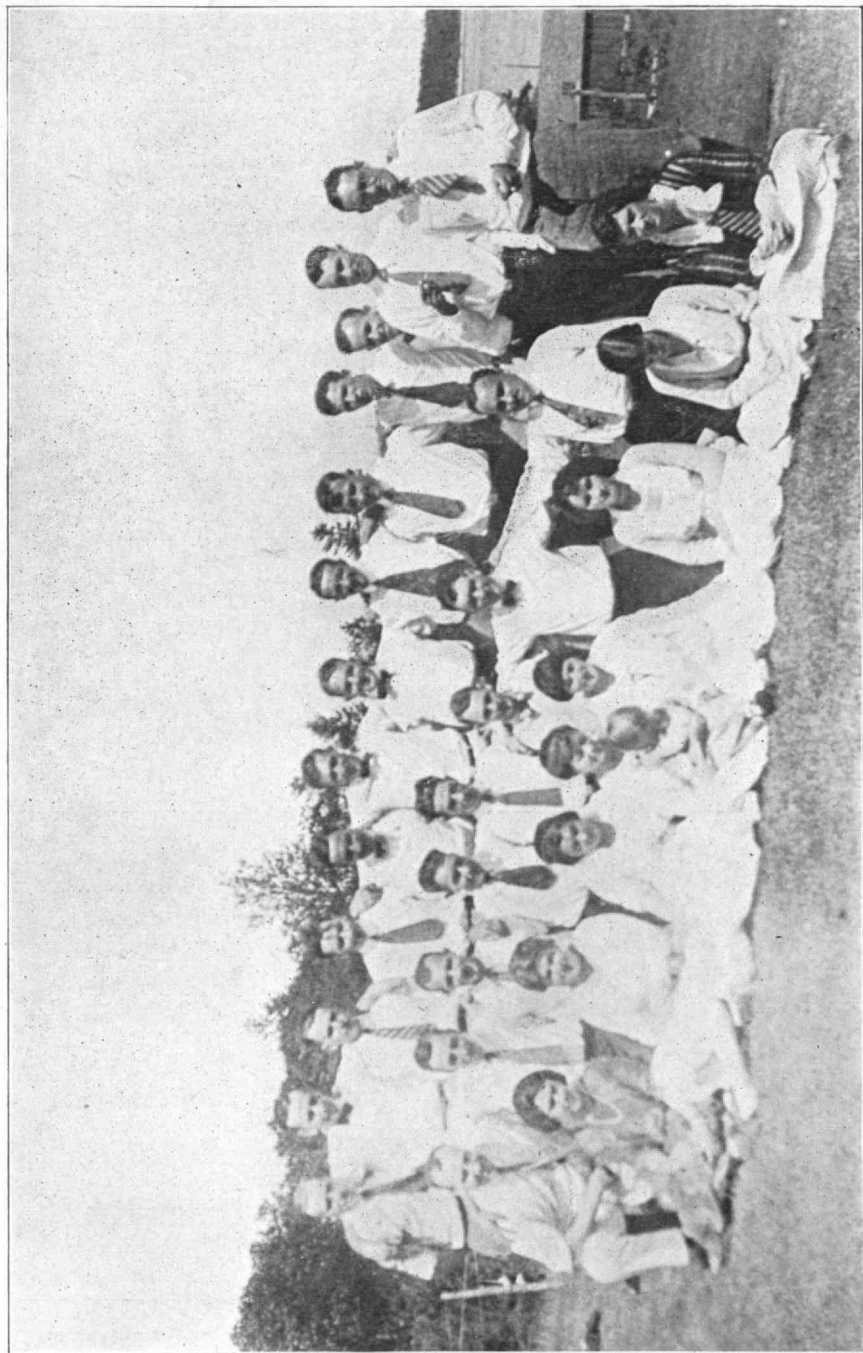
Capt. Ralph Millis, C. F. writes from Camp A. A. Humphreys, Maryland:

"Hello, Charlie! I'm sorry I cannot be at the party. Give my regards to all others present, and especially yourself. For the benefit of the statistical branch, I tabulate below my 'progress and successes' so feeling referred to in the prospectus of the reunion. Successes: Wife, none as yet; dogs, none; job, captain in U. S. A. Engineers; pay (everybody knows that). Progress: Largely increased ability to enjoy life."

Captain Al Lieber, C. E., United States Army, I, writes the following account of his experiences in the jungles of the Panama Isthmus, as officer "in charge of party". The Sanitariums have made the Canal Zone health perfect by their measures in exterminating the insect pests which are elsewhere so obnoxious and dangerous. Captain Lieber's article gives some idea of conditions just outside of the canal area *today* and helps to bring home to the reader just how much Uncle Sam's Sanitariums have accomplished in this interesting land. — *Editor's Note.*

To the casual tourist, crossing the Isthmus of Panama in a railroad car, it would not appear that mapping the jungle is a particularly arduous task. But the cool green of the tropical vegetation and the rolling hills are deceptive. The brisk trade winds which cool the cleared spaces are entirely shut off by the rank growths, which also serve to magnify the radiation and make the wooded spaces a furnace at noonday. The hills, appearing to be gentle rolling country because of the trees are in reality extremely steep, often so much so that walking is impossible.

Along the coastal districts, particularly on the Atlantic side, there are many mangrove swamps, backed by intermittent marshes just a few feet above the sea level. Here breed mosquitoes that are comparable to the best New Jersey stories, while the Canal Zone itself is more free from mosquitoes than any lake or river district that I have ever visited in the United States. The excellent work done by the Sanitary Division of the Panama Canal does not extend beyond the inhabited parts of the canal zone. Elsewhere the mosquito flourishes. In sandy districts and along river courses another pest, the sand flea, or *jejeug*, serves to make life miserable. This insect combines the size and agility of the flea with the appetite and ability of the mosquito. Unguents and smudges are its particular pleasure, and the ordinary mosquito bar serves only as a convenient resting place. Intense heat kills the insect, but that is also unbearable to the topographer. An especially fine-meshed mosquito bar, approximating cheesecloth, serves to stand them off fairly well, but disarranging the bar in one's sleep brings on disaster and misery. Severe attacks appear to bring on a fever similar to a mild case of malaria. I have noticed that the insects disappear almost entirely during the full period of the moon, but whether this was an effect of the moon or a coincidence with the natural period of life of the sand flea



1916. FIVE YEAR REUNION



1916. YE GANG IN SWIMMING



1916. RUSTY WHITE AS "FATTY ARBUCKLE" IN "THE LIFE OF THE PARTY"

I cannot say. Suffice it to say that in the place of the sand flea one may enjoy the full moon, even though it be done in solitude.

Head nets and gloves are entirely impracticable, not only because of the added heat they cause, but also from the difficulty in manipulating the instruments. So the insect pests must be borne just as they are during the daytime. At night one may escape from them by sleeping under the mosquito bars, but these are as airy as a sheet iron stove, and nearly as warm. I recall with some vividness a three-week period during which the cook prepared nothing but slum and coffee for breakfast and supper. We dressed inside our bars, went immediately to the cook tent and picking up a mess kit with our slum, bread and jam, kept right on walking until breakfast was finished. Then each picked up the instruments pertaining to his particular function, and all except the cook left the camp. At night we reversed the procedure. How the cook managed I do not know. The heat of the field range probably helped, but I never stayed in camp to pry into his secret.

The density of the verdure and the steep slopes add materially to the topographer's difficulties. Magnificent trees, ranging from hardwoods of the mahogany and *lignum vitae* families to spongy woods which rot within a few months of cutting cover the hills and swamps. Between these and to lesser heights grow palms of all descriptions, from the knee high varieties to magnificent black palms forty to fifty feet high. The taller palms, such as the coco and the royal palms are cultivated and are rarely met outside of plantations. Vines, ranging from a climbing wiry grass to long rope-like *lianas* and gnarled water-bearing *bejucas* climb over all. Orchids are common. The mangrove swamps are completely covered by thickly interlaced hard-fibered stems which rise like ribs of an umbrella, supporting a flat mass of laurel-like foliage at their apex.

Malaria is prevalent wherever there are native dwellings. The *paisanos* seem to be largely immune, but are carriers of the disease. Generally all members of a topographic party take ten grains of quinine daily as prophylactic, and increase the doses whenever the malarial symptoms are felt. Continued residence in malarial districts often results in hospital cases, and great difficulty arises in moving the sick person back to civilization. Typhoid and dysentery are not uncommon in settled districts.

The native villages, despite their danger as sources of disease are interesting. Most of them are in the coastal districts, and with their nipa-thatched roofs and graceful coco-palms make a pleasant picture. The style of living is very elementary and so long as coconuts and pineapples ripen regularly and there is plenty of hard wood to burn for charcoal, life flows easily and as pleasantly as a dream. Native rum made by fermenting cane juice and a drink made from the juice of the *maranon* or *cashaw*, furnish excitement whenever things are dull. Both have a kick with remarkable results, the least of which is anaesthesia, which generally lasts twenty-four hours.

The natives, who are mainly squatters, have an aversion to any form of traverse stake, believing that their land is to be taken from them. It is sometimes necessary to replace stakes for miles of traverse, after some diligent native has passed that way. Cambric triangulation station flags are also fair game as a source of cloth, red flags being the favorites. Even riddling the flag with holes does not make it immune. Sometimes these conditions can be corrected by explanation to the natives, at other times some other form of suggestion applied to the village *corregidor* gets results.

Perhaps the greatest hindrance in the jungle is the rain. On the Atlantic side of the watershed the rainy season commences in March, a month before the Pacific season, and lasts until the end of November. During the first months there is a daily shower, later the rainfall becomes more violent, sometimes a single storm lasting for days. The March rains are generally early morning showers, wetting field parties on their way to work and dripping from the trees through the remainder of the forenoon. Tentage cannot stand the continual wetting and mildews, so that it affords little protection. Food and bunks are always wet and soggy. Supply trails become hock deep with mud and under the passage of mule pack trains carrying food supplies and the hill slopes become so slippery that passage is dangerous. Bottom lands become morasses and stream courses. Streams that were ankle deep during the rainy season become rushing torrents, sometimes rising thirty feet after a particularly heavy rainfall. Bridges are washed out and fall through from rot. Fords become impassible over night. So that as a rule topography is not attempted during the rainy season, yet emergencies sometimes require it.

Topographic methods have to be adapted to suit the particular district in which one is working. Each district has some individual condition that must be met. Unless traverse

lines are entirely "bushed" before traversing, the transit party will overtake the bushmen. Transit shots, due to the steep hill slopes, rarely exceed two hundred feet. The average length of shot during more than six months of work was approximately one hundred and eighty feet. One traverse, a mile and a quarter long, started out at elevation 20 and ended at elevation 1030, running across a succession of parallel ridges, the total ascents reaching 2000 feet and the descents to about 1000. As nearly as I can recall, the least vertical angle was about five degrees, and the maximum thirty-four degrees.

The contour of the country changes so rapidly that topography by transit and stadia methods makes the subsequent plotting extremely laborious. The weight of the plane table makes its use prohibitive. The method that gives the best result is a combination of the two — the instrument man calling out the stadia readings to the plotter, who works on a light sketching board with protractor and scale. Traverses are previously plotted on the sketch sheets, elevations being tabulated in the margins. Orientation of the protractor is obtained by a grid sheet placed beneath the parchment paper sketch sheet and properly oriented with the co-ordination of the sketch sheet. Sketch sheets are plotted on the field sheet by transfer as soon as completed.

Despite the long list of hindrances and inconveniences, the jungle is a pleasant place. The novelty does not wear off. The longer one dwells in the jungle the more one sees. The sensation of exploration keeps spirits high. Surroundings are forever changing, there is no monotony. Game of all kinds abounds. The more common game birds are pigeons, ducks and turkeys. The four-footed game includes wild pigs, deer, tapir and wild cats of the puma family. Monkeys and parakeets complete the picture. The jungle is not easily forgotten."

C. Clinton Carpenter, civil engineer, writes from Norfolk, Va.

"I am writing to ask you to put me on the mailing list of the Class of 1916 instead of 1918 as I am now listed, and to have the Alumni Office make the same change on their record. Although I left the State for two years after my third year and did not graduate until 1918 I still feel a whole lot more like a sixteen man than of the Class of 1918. Of course I do not mean to imply anything against the latter Class.

While in Washington for a few days this last week I attended the weekly luncheon at the University Club and sure did enjoy meeting the fellows. Among the '16 men there were Jack Freeman and Charlie McCarthy. Everybody seemed to be enjoying life and especially Jack as he has just received word that he is to accompany his father on a tour of inspection of the water power developments of Europe. It's rather tough on Jack, especially as he is to receive leave with pay from the Bureau of Standards while gone.

Incidentally I landed the contract I went up to Washington to get — work at the air station at Quantico, Va. — so altogether I had an enjoyable trip.

I sure do wish I could be in Boston for the reunion in June but am afraid it will be impossible. Would be mighty glad to hear from you, Charlie, and remember me to any of the fellows you see."

R. S. Rowlett writes from the Eastern Manufacturing Co., Bangor, Maine:

"Will you kindly see that my name is placed on the 1916 Class register? I am sending along my check for two dollars to seal the bargain.

Although I officially graduated with 1917, I went four years with '16 and remained until mid-year 1917 to do the mopping-up. As far as I know I'm not affiliated with 1916 or 1917 alumni, but as all my associations are with '16 I want to continue as one of the 'bunch'.

I am uncertain about being able to get in on the 'barbecue,' but will try to make it. If any other arrangements, financial or otherwise, are necessary to accomplish reuniting with '16 please let me know. The check I guess will only answer the purpose of a contribution toward Class work, correspondence, etc.

Thank you for sending the 'dope' on the barbecue and be assured of my desire to help in any of the Class activities in which I may be of service."

Bill Farthing writes from El Paso where he is in the employ of the Jones Motor Co., State distributors of Kissel Cars and Trucks.

"I suppose you think I am a — of a guy, and you are not far wrong in some respects. I am ashamed of myself for not writing sooner, but I have been having the very devil with my automobile business for the last few months and have not had time to write as I wanted to.

The first thing I want to say is that I am extremely sorry that I will not be able to

be with you all at the reunion. I cannot think of anything that would give me as much pleasure as getting back to Boston for a while and seeing the 'gang'. You can rest assured I am with you in spirit and were I not several thousand miles away I would be there with the wife. Let me know where you are going to have the banquet or meeting so that I can send a wire. Consider yourself lucky that you have not wandered far from Boston.

I approve of the officers selected as stated in one of your previous letters and I hope we will be able to get things on a more businesslike basis and get the representation we should. It is up to you fellows there to get things going, as you are on the ground, but you have my co-operation in every respect and I will do all I can to help things along. I have been handicapped ever since getting out of school, as I have at no time been permanently located and have been getting mail from ten to thirty days late. It has been quite unsatisfactory. I believe though now I am going to stay here awhile and as soon as possible I want to get the proper address on the records of the State and student organizations.

About two months I was up in Hurley, New Mexico and had lunch with Ken Sully. It was good to see him and we had a very pleasant chat. He is the only Tech man I have seen in several months. El Paso is a long way from the 'Hub' and although it is on one of the main highways to the west coast I have met very few of the boys.

I am enclosing a little check to help defray the expenses and I hope the others will answer the call so that we can soon get things on the proper basis. Let me hear from you soon and tell me all the plans. Remember me most kindly to all the boys and with heartiest congratulations and best wishes to you and your family. I am, as ever yours, Bill Farthing."

J. W. Barker, C. A. C., is still with the American forces in Germany in the office of civil affairs at Coblenz. He wrote Chuck Loomis as follows:

"Dear Chuck: Your postcard about the TECHNOLOGY REVIEW dated February 23, 1921, arrived here the first of last week after following me around. Let me ask you right now, before I forget it, to change my address on the '16 records to Major J. W. Barker, C. A. C. care of The Adjutant General of the Army, Washington, D. C., as they always know at which station I am serving and can forward mail with the least delay.

I have been absolutely out of touch with Tech and '16 ever since the Tech Bureau closed in Paris in 1919. George Gibbs always had the latest dope from Cambridge right on tap there and we used to drop in most every day for a chat with whoever happened to be in Paris at the time. Since I came to Germany I haven't heard a word except from the Fraternity House.

You ask for news of 'what I am doing, where I am, etc.' and I'll try to do so, but I guess I'd better go back a ways and make a sketchy foundation. After graduation I took the Army exams for Coast Artillery and was commissioned in November, 1916. I then went to Fort Munroe to school and on the outbreak of war I was sent to the west coast, Coast Defenses of Puget Sound. January 1, 1918 I went to the School of Fire for Field Artillery at Fort Sill and remained there as instructor until May, when I rejoined my regiment in time to come to France with it. In October, 1918, I was promoted to major and assigned to duty with the artillery staff. I remained there until December, when I went to Paris for duty, first with the War Damage Board of the Peace Commission under D. C. Jackson and then later as Assistant Adjutant-General of the Paris Headquarters. In November, 1919, I came to Germany to assume charge of 'civil affairs' in Kreis Mayen and I have been on duty here ever since.

The Department of Civil Affairs was attached to the staff of A. F. G. Headquarters and controlled and regulated the local German governments. The area committed to my charge was Kreis Mayen. The 'Kreis' corresponds to a large-sized county in our American plan of government but is administered more like a state. The military Provost Courts in each of these 'Kreis' functioned under the Office of Civil Affairs in each Kreis, so that we combined the executive and judicial branches of the government.

Since October of 1920, the work formerly done by Civil Affairs has been performed by the American representatives on the Interallied Rhineland High Commission. At that time I was appointed Superior Provost Court Officer for the entire American occupied area with the exception of the city of Coblenz. It is quite a change from Course VI to Judge of a Superior Provost Court, isn't it?

The service here in Germany is very delightful, but I am ready to go back to the States. I have had nearly three years of continuous service overseas and one gets lonesome for the States.

My wife joined me in Paris in August, 1919, which, of course, makes this longing less piercing, yet it would be wonderful to see a real American store, a real American show or a real American hotel or restaurant.

I had the extreme good fortune and luck to be presented with a baby daughter on the eighteenth of March. The baby was born at the Station Hospital in Coblenz and both are doing wonderfully well.

Give my best regards to any sixteeners you may see and tell them that I'll be at the very first Class reunion that I possibly can attend."

Vertress Young writes from St. Louis to Johnny DeBell, '17, in part as follows:

"We have a regular 77th colony in the company. C. W. Gaylord, our vice-president, is none other than Colonel Gaylord, ex-G. of ye 77th. I left my job in Pittsburgh a year ago last January and came out here as sort of an assistant to him. Like the work first rate and the place pretty well, though of course it cannot compare with Boston. Would like to be in Boston right now to attend the 1916 reunion and see my sister who is at her first reunion at Wellesley."

The following received from E. E. Ekdahl was sent in for E. A. Ekdahl, '16.:

"Mr. Ekdahl is at present in Shanghai, China, working as assistant superintendent for the Amos Bird Co., so will be unable to take part in the Class reunion, much as I know he would like to. However, I am sure he would want to contribute his share towards keeping the Class spirit alive, and am therefore sending the \$2.00 for his account."

Alexander Martin, Jr., VI, wrote Mr. Humphreys as follows:

"I am now lieutenant (j. g.), C. E. C., in the navy, stationed at Lakehurst, N. J., on the big hangar project there, for the housing of the ZR-2. I successfully passed the examinations in October, 1920, received my commission April 14, 1921, was ordered to Annapolis for a month of preliminary training, spending a few days in Washington at the Bureau of Yards and Docks getting acquainted with the personnel and conditions, and am now comfortably settled in Lakewood, which is about ten miles from Lakehurst."

Marshall S. Wellington writes from his new permanent address, 74 Grenada Terrace, Springfield, Mass.:

"In the TECHNOLOGY REVIEW I see that a few of the members are talking about their second one. I can also do that and could have for the last fifteen months. Her name is Margaret Brackett. Maybe if enough of us talk about our second ones, some one will come out with the news that they have three or four. How about it?"

Eddie Williams, II, is with the Perkins Corporation, Mishawaka, Indiana. He writes:

"Dear Charlie, Have been hoping to get back for June, but find I can't make it. However, we expect to motor east in July and spend a couple of weeks in Boston and I'll surely look you up at that time.

After traveling all over the United States and Canada for the Factory Mutual Insurance Company I have returned to the middle west, and am now general manager for the above company. We have just perfected a farm light and power plant driven by the wind and are finding a great deal of interest manifested in it, from all parts of the world.

There are only two Tech men besides myself here and they graduated in 1906. Since leaving Boston I have seen none of the '16 Class.

Was married last August to Miss Irma Lanster of Cleveland — a Simmons girl.

Are you still with the News Bureau? We take it here and find it mighty useful. Business is very dull with us, as we deal with the farm trade and they are badly sewed up, as a result of their failure to realize on their crops, as they had expected. Have noted some improvement since spring cultivating has begun, as work has a tendency to make them more optimistic.

Let me hear from you some time, as I'm anxious to know how things are going."

(The secretary is not now with the Boston News Bureau, but greatly enjoys reading it.)

Dave Patten, our movie actor manager writes from 34 West 44th Street, New York City:

"I have been on the point of writing to you several times, but something interferes at the critical moment, and away go my good intentions. Mrs. Patten was here up till a week ago, when she caught a very bad cold. It developed into a serious infection of the lungs, so I hurried her aboard the train, going home with her. Since then I have been transferring my luggage to the club and trying to keep a company running here in the studio, as well as hunting locations on the outside.

Just at present we are not running at full capacity, only four pictures being under way in a studio large enough for ten. Thomas Meighan, Elsie Ferguson, Constance Binney, Alice Brady and Justine Johnston are all either in production now shooting or about to begin. I am managing or making a stab at managing, Miss Ferguson, in her new picture "Footlights." She is a temperamental individual, petted and spoiled by many years of bowing and scraping until nothing is too good for her. In all fairness, however, she is an interesting person, has travelled all over the world, and is naturally attractive.

Our organization is perhaps the largest of its kind, being a two million dollar corporation dealing in the production, selling, buying, and exhibiting of motion pictures. There are about one hundred and forty-seven subsidiary companies. Three of the newest and largest theatres in New York are owned by the Famous Players. Our studio here in Long Island City is the largest studio under one roof, yet built. Another is located in Hollywood, Cal., and a third in London, Eng. The American International Corporation have some controlling interest in the company, Mr. Cairo, a member of the former, taking an active interest in our production here. The work is interesting and possibly has some future; the location, New York City, is very poor — the worst place to live in I ever saw. As to the personal satisfaction in producing a motion picture, there is nothing constructive about it nor lasting. Construction and engineering are much better lines of work to be in.

What are you doing Charlie? Consider yourself fortunate to be able to live in or near Boston. It's a great town. By the way can you look me up in the 1916 files? I took my degree some years afterward and doubtless am all mixed up. '16 is my class. Drop me a line when you find an opportunity. *Dave.*"

The *Evening Transcript*, Boston, February 26, published the following:

"Announcement is made of the engagement of Miss Evelyn Cary Hoge, daughter of Rev. and Mrs. Peyton Harrison Hoge of Pee-Wee Valley, Ky., a suburb of Louisville in that State, to George Jackson Mead, son of Dr. and Mrs. G. N. P. Mead, of 27 Church Street, Winchester. Mr. Mead is a graduate of the Massachusetts Institute of Technology and is now engaged in business in New York. Miss Hoge's father is a prominent Presbyterian minister."

And that of March 11:

"A wedding of interest hereabouts, although it took place in New York, was the marriage on Thursday of Miss Frances Clarke Read, daughter of Mrs. Edwin Read of Lexington, to Harold Osgood Whitney of New York and Boston. The engagement of the young couple was announced some time ago.

Miss Read and Mr. Whitney, who returned recently from Palm Beach, decided to be married at this time and hurriedly invited a few of their friends to be present at the wedding. The ceremony was performed late Thursday afternoon in the Community Church of the Messiah, by Rev. John Haynes Holmes, D.D., formerly a Boston clergyman. The bride had no attendants. Lawrence Copley Thaw served as Mr. Whitney's best man. There were no ushers and no reception.

Mr. and Mrs. Whitney will go to Palm Beach to remain until April 15. Mr. Whitney is a son of Mrs. Arthur Herbert Whitney of Watertown, Mass. His bride is a granddaughter of Mrs. Alexander Clarke and a grandniece of the late Miss Alice Butler Cary."

The following changes in address are reported:

William I. Bowditch, E4 Clive Building, Calcutta, India; William H. Boyd, 1017 New York Avenue N. W., Washington, D. C.; William G. Brown, Langley Field, Hampton, Va.; C. Clinton Carpenter, 304 Dickson Building, Norfolk, Va.; Frank D. Chandler, 22 Sycamore Street, Somerville, Mass.; Kemerton Dean, care R. Kaiser, Havre, France; Mrs. Parker Dodge, 405 Cumberland Avenue, Somerset Heights, Md.; William J. Farthing, Jones Motor Co., El Paso, Texas; Howard W. Green, International Board of Health, Central Aguerre, P. R.; Howard A. Hands, 509 Coal Street, Wilkesburg, Pa.; Edgar F. Hanford, 158 Ashmont Street, Boston 24, Mass.; Carlin F. Harrington, 6246 Linwood Avenue, Detroit, Mich.; Capt. James F. C. Hyde, Co. "C," 3d Engineers, Schofield Barracks, H. T.; Von-Fong Lam, 4 B Peking Road, Shanghai, China; Capt. Donald M. McRae, Charlstrom Field, Arcadia, Fla.; Thomas F. McSweeney, 220 Devonshire Street, Boston, Mass.; Mrs. Tilford Miller, 1142 Madison Avenue, New York, N. Y.; Capt. Ralph Millis, Camp A. A. Humphreys, Md.; Harold A. Moxon, 564 Linebarger Terrace, Milwaukee, Wis.; Mrs. E. Edward Muesser, 203 Morris Avenue W., Mountain Lakes, N. J.; James H. Murdough, 105 Hoffman Street, Elmira, N. Y.; Robert E. Naumburg, Saco-Lowell Co., Lowell, Mass.; D. Patten, 34 West 44th Street, New York, N. Y.;

John D. Robertson, 185 Highland Street, Taunton, Mass.; Melville H. Rood, 20 Hawthorne Street, Boston, Mass.; Henry B. Shepard, 398 Walcott Street, Auburndale, Mass.; Rowlett H. Stuart, Hotel Giffard, Bangor, Me.; George A. Spooner, 118 45th Street, Des Moines, Iowa; George W. Tuttle, 800 Seventh Avenue, Buffalo, N. Y.; Marshall S. Wellington, 74 Grenada Terrace, Springfield, Mass.; Arthur K. Wells, 10 Auburn Street, Nashua, N. H.; Jackson B. Wells, 152 Alameda Street, Rochester, N. Y.; Wallace E. Wentworth, Rockledge Manor, Yonkers, N. Y.

1917

1917 HOME OFFICE, Room 3-208, M. I. T., Cambridge, Mass.

The inauguration dinner tendered Doctor Nichols on the evening of June 8 was attended by fifteen members of the Class, who had as their guest Mrs. H. H. White, the mother of "Rusty" White, 16. Due only to a final burst of speed in 1916 and a streak of luck "Rusty" was prevented from joining our Class, and so it was deemed particularly appropriate that his mother should be our guest. "Rusty," who was coming east from Seattle for the 1916 Fifth Year reunion party, was delayed by the Pueblo floods and did not arrive in Boston until the morning of the ninth. That evening he and another almost seventeen, Knight Owen, held a special joint reunion with representatives of the Classes of '17 and '18. The complete alphabetical roster of those present at the dinner was: Chester K. Allen, II; F. Bernard, VII; Irving B. Crosby, XII; John M. DeBell, X-A; B. F. Dodge, X; H. P. Eddy, XI; Dudley F. Holden, X; XV; Philip E. Hulburd, IV; Stanley M. Lane, X; C. E. Lansil, VI; H. E. Lobdell, IV; R. J. McLaughlin, XV; R. H. Ross, VI; Raymond S. Stevens, XV; C. E. Turner VII; Mrs. H. H. White, W. C. Wood, X.

Ralph Ross had charge of the installation of the amplifier which was used for the inauguration exercises and at the dinner. He is with the Long Lines Department of the American Telephone and Telegraph Company and was sent to the Institute to put in the apparatus, which was of a similar type to the one used in Washington on the fourth of March last. It excited much favorable comment on this occasion, as at the Harding inauguration. Besides making it possible to hear the speeches in any part of the hall, large horns in front of Walker enabled an overflow crowd of nearly a thousand to lounge comfortably on the grass and distinctly hear every word uttered by the various speakers.

Other members of the Class who are with the American Telephone and Telegraph Company or its allied companies are G. D. Spear, VI, in the statistical branch of the purchasing department of the Western Electric Co., Joyce R. Kelly, VI, in the contract sales department of the Western Electric; R. P. Martin, VI, in the power equipment branch of the development and research department and Charles A. Abels, VI, in the Long Lines Plant of the American Telephone and Telegraph.

The first Technology dinner following his election to the presidency at which Doctor Nichols was present was that given by the Technology Club of Northern Ohio in Cleveland on April 14, and five 1917 men were present.

The following extract from a letter from Malcolm Brock, assistant to the general superintendent at the Goodyear Company, is interesting:

"At the dinner tendered to President-Elect Nichols, at Cleveland, Ohio, Thursday, April 14, by the Technology Club of Northern Ohio, five (5) nineteen-seventeen men were present.

"Phil Cristal, who is now with the Cleveland Railway Company, as usual had his fingers in the pie by collecting the cost of the dinner from everybody. G. A. Grey, Course VI, is with the M. A. Hanna Company, W. C. Brown is with the National Electric Lamp Association, in research work, and C. V. Brush is in research work in Cleveland for himself. As for myself I am still working with the Goodyear Tire and Rubber Company.

"The dinner was held at the University Club and the Cleveland Chapter was kind enough to invite several Akron men up to participate. It certainly seemed like 'Old Home Week' with five nineteen-seventeen men in one place at one time."

Since the last issue of the REVIEW in which we mentioned the Athletic Fund to which this Class had contributed, Doctor Rowe has received checks from Ted Bernard and Phil Hulburd. Phil writes us as follows from Exeter, N. H.:

"Just a note to say that the April copy of the REVIEW just arrived; reminds me that I haven't yet sent my bit for the Athletic Fund. I meant to do this long ago, but have had a rather hectic existence and the matter has been forgotten.

"One bit of news for you — Robert Penniman Hulburd arrived on May 9, weighing seven pounds, and cheering lustily for the Institute. I haven't yet decided what Class I'll enter him in, but then there's plenty of time. The fact that he already had a sister who was born back in 1919 may have escaped notice too, so I give you the complete dope on my young family at this time.

"As you no doubt gather, I am still teaching here in the Academy and advising that the only college to be even considered is Technology. Though I don't assume that it's all my doing, the fact remains that about twenty-five per cent of the six hundred and fifty boys here intend eventually to arrive at the Institute and I hope they'll all make the grade.

"With best wishes to you and any one you may see of the old gang, believe me as ever, Yours for 1917."

A recent visit to the Home Office from P. B. Watson, X, who has been with the Sutherland Industrial Research Company, in New York, gave us the interesting information that T. P. Hou received a Ph. D. from Columbia this year, having specialized on Leather Tannage. He has been travelling the United States preparatory to returning to China, where he will represent the Solvay people in Shanghai, sailing July 1. Y. T. Chang is married, Watson says, and runs an export house in Shanghai, most of his business being with the South Sea Islands. This makes three Ph. D.'s in the Class that are officially recognized in the Home Office — the other two being Charlie Venable and I. B. Crosby. Incidentally, Charlie has just been appointed assistant professor of chemical engineering research at the Institute.

The Tech speaks as follows about Dusty Wilson's gang out in Buffalo:

"It has been definitely decided that the men in course X-A stationed at Buffalo will have a clubhouse. The Technology Club of Buffalo is co-operating with the Institute in the promulgation of this plan in the hope that, in future, the clubhouse may be a kind of Technology center for Buffalo and vicinity. At a meeting of the executive committee of this body with Professor D. W. Wilson, in charge of the Buffalo station, the committee stated that they desired to see the clubhouse go through and expressed the above hope.

"The Everett station of the course will be changed from the Everett plant of the Merriam Chemical Co. to the South Wilmington plant of the same concern. The reason for this change is the fact that at the latter plant, the concern manufactures many more products than at the former. South Wilmington is also the place where the main research laboratory of the concern is situated."

We also note in the recent issues of the daily press the following in the New York *Tribune* of May 3.

"Mrs. John Beecher Patton, of 2 West Sixty-Seventh Street, has made known the engagement of her daughter, Miss Ruth Maurice, to Edgar Staley Gorrell, son of Mr. and Mrs. Charles Edgar Gorrell, of Baltimore, Md. Miss Maurice is a graduate of Sweet Briar College, Va., and is a member of the Junior League. Mr. Gorrell was graduated from the United States Military Academy at West Point and took his post-graduate degree from the Massachusetts Institute of Technology. He was assigned to the army air service in 1914 and saw active flying during the Mexican Punitive Expedition. In June, 1917, he went abroad as a member of the Bolling Aircraft Mission. After investigating operations on the British, French, American, Belgian and Italian fronts he was placed in charge of strategical aviation, American Expeditionary Force. Later with the rank of colonel, he served as chief of staff of the Air Service American Expeditionary Force.

"With Major General Patrick, Colonel Gorrell represented the United States in the drafting of the international convention on air navigation and in framing the aeronautical terms of the peace treaty. He was awarded the American D. S. M., the Legion of Honor and the British D. S. O.

"Colonel Gorrell returned to the United States in 1919 and served on the general staff until he resigned from the army to join the Nurdyke Marmon Company of Indianapolis, Ind. The wedding will take place in this city in the early fall."

Dusty Cronin was married on June 6 in Charlestown, Mass., to Janet Smiley Murphy, daughter of Mr. and Mrs. John R. Murphy. They will be at home after July first at 924 South Maple Street, Spokane, Washington.

Freddy Stearns was married on May 28 at Watervliet, N. Y., to Luella Catherine,

daughter of Mr. Hosea O. Pickett. They will be at home after October first at 208 Grove Street, Melrose, Mass.

We have just learned that Leander H. Hills, XIV, who was research and operating chemical engineer with the National Electrolytic Company, of Niagara Falls, their principal business being the manufacture of chlorate of potash, left last fall to accept a position as chief chemist with the North American Chemical Co. at Bay City, Mich. His address is care of that company.

Mr. and Mrs. John M. DeBell announce the arrival of John Junior, weight, eight pounds, at Great Barrington, Mass., on July 4 last.

"Colonel" Roberts of the M. I. T. Cadet Corps burst into prominence recently when he was sent to investigate the bomb explosion at Aberdeen last May. Claude remained as a captain of ordnance after the war. Other than the original press despatch we have been unable to get any further information about the investigation:

"Two men were killed and thirteen others injured, four probably fatally, by the explosion of a bomb at the Aberdeen, Md., army proving grounds during preparations for airplane bombing experiments, according to official reports telephoned the War Department tonight by Maj. William A. Borden and Capt. Claudius H. M. Roberts, special investigators, sent from here to report and ascertain the cause of the explosion.

"The official report stated that three bombs weighing one hundred pounds each and one weighing fifty pounds had been loaded upon an airplane for tests. As the plane was about to start its flight it was decided to turn it around and all the injured and dead were about the big plane helping in the operation.

"As the plane turned, the 50-pound bomb rolled off and an instant later it was struck by the rudder of the machine as it swung around. This caused the explosion in the very midst of the men about the machine.

"Neither Major Borden nor Captain Roberts attempted in oral reports tonight to fix the responsibility for the explosion. They said they had been unable to ascertain the full facts of the disaster, but would make a thorough investigation before returning here. They were directed by Maj.-Gen. C. C. Williams, chief of ordnance, to submit all information that might throw any light on the incident. He ordered them to Aberdeen from here by airplane upon receipt of first reports of the explosion."

Lev Lawrason, II, has changed from the Gulf Production Company, with whom he was located in Louisiana, to the Petroleum Rectifying Company of California. His address is 260 California Street, San Francisco, Calif. — Erling Stockman, XV, marine superintendent for the Astmachco Navigation Company, was recently in Boston to inspect the queen of his fleet, the "Astmachco III," a cargo carrier of 3600 tons dead weight. This company operates a fleet of steamships for the Astoria Mahogany Company of New York City, which is the largest manufacturer of mahogany lumber and veneer in the United States, their factories being at Long Island City. Stockie has charge of the fleet which plies mostly between this country and Nicaragua, Mexico, and to the west coast of Africa. He tells many interesting stories of his different experiences in the West Indies and Panama, and any one meeting him should obtain the details of his stay at the Virgin Islands, his trip to Martinique and how he was marooned in Havana. In Panama last September he met Capt. Bob DeMerritt, C. A., who is at Fort Amador. He also tells us some news from Bridgeport. Art Keating is director of welfare work at the American Tube and Stamping Company and is also secretary of the Bridgeport Section of the American Society of Mechanical Engineers. Hank Stagg is using his experience on the *Technology Monthly* and is writing technical bulletins on lubrication for the Vacuum Oil Company.

June Dunbar, XV, is still in the rubber brokerage business in New York. Downtown office, Broad Street, uptown office, The Claridge Grill. — E. C. Lewis, II, is still with the Hygrade Lamp Company of Salem, Mass., as a mechanical engineer. This company manufactures electric incandescent lamps under the guidance of the General Electric Company.

A recent letter from Capt. Frank B. Hastie, 12th Engineers, at Camp Grant, Illinois, might well furnish inspiration for some budding Ring Lardners of the future. Here goes:

"Being a company commander is good fun — like having an enormous family — about eighty men good, men too, sent the company in to represent the regiment in a parade in Rockford the other day — with the regimental band — marched much better than the doughboys — get hard words said too, sometimes — found a note in my company stables, the other day, put up by stable sergeant — any men calling the company com-

mander any more names would be reported. Stable men always bolshevik — think they work harder than any one else — good joke on me. Engineer drill about half the morning — infantry drill other half — general police and instruction of backward men in afternoon — go out to the range soon — hope I can make at least marksman.

"Sixth Division here, about five thousand men — roughly half strength — don't know whether this camp will be permanent or not. Our regiment has consolidated the six letter companies into three — no more enlistments — may have to cut to two — looks like we would be consolidated with some other engineer regiment — bring us almost to peace strength.

"Haven't had any river and harbor work yet — but have been getting good engineer field training the past few months — probably be instructor for National Guard this summer at Camp Lincoln, near Springfield, Ill. — good experience.

"Conaty here in 3d F. A. Good outfit — no other men in our Class here. I understand there is no appropriation for education and vocational training next year — that was the big cause of tremendous recruiting done last year and early this year — I think the men learned something toward a trade, and, on the whole it was a success. However, with army of 150,000 — looks like men would have to learn to be soldiers first. Have a nice mare with lots of pep — 'Lady' — trying to take off about fifteen pounds by riding every day. You should join me — Sure would like to hear the news. Give my best to all the boys."

Haig Solakian, II, writes that after having had considerable typewriter experience as a metallurgist for the Remington Typewriter Company, where he was in charge of the physical and chemical testing of steels, ferrous and non-ferrous alloys, oils and fuels; supervising heat-treating departments and foundry works and also in active charge of the research work, he left them and is now a consulting metallurgist for the Mohawk Valley Testing Laboratories, at Ilion, New York, where he is conducting research work on tellurium.

Among the recent appointments at the Institute is that of H. E. Lobdell, IV₂, as Assistant Dean. Further comment is unnecessary.

We are indebted to Prof. Charles E. Locke, '96, of the Mining Department, who has allowed us to use the following extracts of letters. The first is from Bill Gray, III:

"At present I am with the Bigheart Oil Producing and Refining Co. at Bigheart Oklahoma, in charge of an experimental plant which has just been completed. It consists of two stills, a five-ton refrigeration plant, four pumps, two motors and an air compressor. I have five men under me and the vice-president and general superintendent after me most of the time, but outside of that I am learning some of the fine points of oil refining which could not be picked up elsewhere in years.

"I started in as a laborer, then worked six months on the heavy oil agitators and learned the treating end, after which I put in two months on the stills, then in charge of the construction of my present plant. I have had two days off since the middle of August and have worked as long as 23 hours at a stretch. During the last 48 hours my ammonia compressor gave out and I put in 29 hours out of the two days.

"Bathing is a lost art in Bigheart. One man has a bathtub, but it is still on his porch in the crate and has been there a year and a half.

"I heard a new definition of a B. T. U. the other day which you might be able to use at Technology. Here it is: 'A B. T. U. is a wild animal running loose and if you don't corral him he'll break you'."

Richard T. Lyons, III, who is with the Perija Exploration Company writes from Maracaibo, Venezuela, as follows:

"I have been in the bush most of the time lately; but now I have a little breathing spell. Things have been going fine with me, with the exception of one bad attack of malaria; but fortunately that did not last long. Sickness is the worst thing we have to fear here, and next to that come the Indians, who are still wild down along the Colombian border. However, on the whole, it is agreeable enough here, especially at this season of the year. It is between July and October that the sun works overtime, and then Maracaibo is the hottest place on the western hemisphere.

"My chief method of transportation is by mule. There is one road up the north coast to Cors in the State of Falcon which I have been over in a Ford. Then for river work we have Canadian canoes and dugouts. I am still travelling over Venezuela examining petroleum concessions, and find the work always very interesting. In a few days I am off

again, this time to be gone three months. After that, in July, I am going up to the States on a vacation."

A. C. Carlton who is with the Chile Copper Co., at Chuquicamata, Chile, wrote as follows while he and Mrs. Carlton were on a vacation trip to Santiago:

"Mrs. Carlton and I left 'Chuqui' on the twelfth of last month and came south on the first available steamer and since that time have been enjoying life in a big (more or less) city. We spent three days at Braden where among other friends, we met Schmucker and Brown both 1915. Schmucker is assistant to the General Manager and Brown is in charge of testing at the mill and concentrator. Both appeared quite happy and prosperous. I went underground once but spent most of the time at the mill and the smelter.

"I am still at the electrolytic tank house and having quite a fine time. I expect that when I return production will have been cut considerably. We may as well be cheerful, however, knowing that sooner or later better times will come."

Alan P. Sullivan, XIV, was with the Carborundum Company for over a year and a half as assistant director of the research laboratory where he was engaged on experimental work with electric furnaces in the production of special carborundum refractories, and in the determination of some of the physical properties of commercial refractories. He has published a paper on the "Physical Properties of Commercial Refractories — Electrical Resistance," which was presented at the September, 1920 meeting of the American Electrochemical Society. Since September of last year he has been in charge of the research and development laboratory of the Stackpole Carbon Company where the problems undertaken have been connected with carbon and metal brushes for electrical machinery and with carbon products in general of which a specific instance has been the development of electric graphitizing furnaces.

We are able to publish in this issue a recently compiled bulletin of the present activities of the Course XV men of the Class which is indeed a creditable showing.

A. K. Althouse. Is manager of A. K. Althouse & Company, Norristown, Pa., wholesalers of coal and coke; is engaged in investigating sources of production of coal and coke where the merchandising is done by wholesalers; makes careful analysis of the product in order to market it intelligently; is consequently occupied with problems of salesmanship to provide a steady market for the producers.

S. R. Barrows. Is a ship draftsman, grade A, with William Cramp Ship and Engine Building Company of Philadelphia. This company manufactures steel ships; is engaged in laying out for specifications, and is principally occupied with technical work concerning scout cruisers, and with detailed arrangement of various compartments, such as central stations, interior communication, etc. His address is 1625 Brown Street, Philadelphia.

Sidney S. Batchelder. With the Barre Wool Combing Company, Barre, Mass. Engaged in learning the business of wool manufacturing. Address, Box 272, South Barre, Mass.

Dudley E. Bell. Is vice-president of the Hohlfeld Manufacturing Company, Allegheny Avenue, Ninth and Tenth Streets, Philadelphia. This company manufactures hammocks and turkish towels. Is practically in charge of the hammock department, including production management, purchase, sales and contingent work.

Malcolm C. Brock. Assistant to the general superintendent of the Goodyear Tire and Rubber Company, Akron, Ohio. His special work is in connection with the relationships between production, development, cost, engineering, purchase, labor, sales, schedule and dispatch, and efficiency departments.

E. P. Brooks. Is assistant to the vice-president in charge of manufacturing, of the American Cotton Oil Company, with offices located at 65 Broadway, New York. This company and its subsidiaries manufacture cotton-seed products, including oil, meal, lint, fertilizer, sulphuric-acid, soap and washing powder, edible products such as lard compounds, lard substitutes, and salad oil. His work is of a general character, concerned with manufacturing problems of great variety. His specialty is in getting problems in shape for consideration.

F. H. Butterfield. Is with the Hartford Rubber Works Company, an operating plant owned by the United States Rubber Company, as production manager. Address 212 Laurel Street, Hartford, Connecticut.

J. W. Doon. Treasurer and general manager of a manufacturing company producing bicycle rims, located at Henniker, N. H. This is a small plant, which Doon terms a "one man plant" as far as executive control and management is concerned. He has direct charge of sales, purchasing, planning, production, employment, costs and accounting.

S. C. Dunning. Assistant to the manager of the Dover Stamping and Manufacturing Company, Cambridge, Mass. This company produces sheet iron and tin products. During the past year he worked in the various productive departments as assistant foreman. He was then assistant to the purchasing agent, and then transferred to the sales department. His work consists of keeping up the liaison between the selling force and the factory.

Robert C. Erb. Assistant superintendent of the Newport and Claremont shoe factories of the W. H. McElwain Company. Is the executive assistant to the manager of each of the above plants, which together produce about six hundred dozen shoes per day. He has direct charge of all factory correspondence, payroll work, cost accounting and office reports and records. He should be addressed at the Newport House, Newport, New Hampshire.

Joseph Gargan. Is treasurer and manager of the Ascutney Shoe Co., Windsor, Vt. This company makes men's work shoes. As manager, he has supervision over the entire plant, including cost records and financial statements. His factory is located in the State prison and as all his employees are prisoners there is very little labor trouble.

R. N. Gay. Manager of a company at Waco, Texas, (114 South Ninth Street,) producing automobile storage battery parts. His work is concerned with wholesale and jobbing.

C. W. Hawes. Acting secretary, in charge of service, of the course in modern productive methods of the Business Training Corporation, 185 Madison Avenue, New York City. This work includes the training of foremen and executives in the fundamental principles of modern production, covering such subjects as team leadership, handling men, organization, handling equipment, production records, and management. "This training is accomplished through a series of meetings of a group of men in a factory, who are enrolled in the course, at two-week intervals covering fourteen weeks. One of the lecturers gives a talk on the subject, which is followed by a round table discussion.

Lucius T. Hill. Assistant technical expert of a company manufacturing mechanical rubber goods, in Brookline, Mass. He is head of the specification department, and engaged in general organization and efficiency work. Hill's address is 75 Monmouth Street, Brookline, Mass.

M. L. Hodgson. Is junior accountant of a firm of accountants and engineers. His address is 96 Shornecliffe Road, Newton, Massachusetts.

Dudley F. Holden. Assistant superintendent of Hewes and Potter, Boston. The firm manufactures suspenders, garters, and neckwear. Holden is in charge of costs and production, under the general supervision of the superintendent. Holden's address is 91 Park Avenue, Wakefield, Mass.

S. P. Houghton. Houghton, unfortunately, broke down in health last summer, and made for the woods in order to recover. He has shown good judgment, and has been acting as camp clerk with the Connecticut Valley Lumber Company, in New Hampshire. Houghton reports improvement in health. At present he is at his home in Cooperstown, N. Y.

H. N. Keene. Is with the Plimpton Press, Norwood, Mass. Keene reports that he has no title, but apparently there is not any title which is big enough to include the variety of his jobs. He is engaged in plant layout, gathering production statistics, plotting figures of production and sales, keeping down expenses in auxiliary departments such as shipping, sales, etc. This firm is engaged in the complete manufacture of books.

W. J. Littlefield. Mill manager of a company producing bed comfortables, stair pads carpet linings and rug linings, located in Watertown, Mass. His work is concerned with the control of production, cost keeping, making the schedules for purchasing, supervision of bookkeeping and accounting, and control of stock records. He has much to do with the arrangement of the machinery in the mill, in order to secure economy. Address, 6 Craigie Circle, Cambridge, Mass.

R. O. Lowengard. Is purchasing agent of the Metal and Thermit Corporation, 2 East 45th Street, New York. This company manufactures tin, tetra-chloride of tin and detinned scrap, thermit, and semi-rare metals. He has to do with the purchase of raw materials and general equipment required for plant. Compiles graphs, charts, and statistics on the operation of the corporation, and is assistant office manager. Has been engaged in a study of the installation of the Taylor system, and a mnemonic classification system.

Charles E. Low. Purchasing agent and mechanical engineer for the Woodstock

Typewriter Company, Woodstock, Illinois. Has supervision of drawings, issuing of production orders, and routing of material through factories; also supervision of time studies in general industrial engineering work.

N. M. Marsilius. General superintendent of the Woodstock Typewriter Company, Woodstock, Ill. He has general charge of the company's factories and offices, other than sales and accounting. Under normal conditions the factory runs about six hundred men. He has personal supervision over engineering, purchasing, tools, and manufacturing.

L. L. McGrady. Manager, in charge of bleaching and dyeing departments of the Massasoit Manufacturing Company, Fall River, Mass. This company produces cotton waste products, prepares cotton for nitro-cellulose manufactures and absorbent cotton concerns. His work is varied — buying, selling, and manufacturing. Also has charge of industrial relations for the company's mills, with nine hundred hands.

W. J. McNeill. Assistant mechanical sales engineer for the United States Aluminum Company, Pittsburg, Pa. This company manufactures aluminum in the form of ingot, sheet, tubing, etc., and fabricated articles. His work is concerned with the mechanical and engineering problems connected with the manufacture and sale of aluminum in various forms.

H. G. Mann. Assistant general manager and sales manager of the Tuscaloosa Mining Company, Oakman, Alabama. This company does mining and shipping of steam coal.

W. L. Medding. Capt. Engrs., U. S. A., Camp Gordon, Atlanta, Ga.

Thomas K. Meloy. Is just on the point of departure for China, where he expects to engage in the work of industrial education. Meloy will probably have a very interesting report to make in the course of a year or so in regard to his experiences in what seems to be a very promising field. His forwarding address is 55 Liberty Street, New York.

A. E. Moody. Process student and engineer in the Great Western Sugar Company, Brush, Colorado. This company manufactures beet sugar. Moody is engaged in engineering work and is learning the sugar process with a view to becoming an operating executive.

E. G. Senter, Jr. Consulting engineer in Dallas, Texas. His work during the past few months has been varied. Among his operations are: (1) geographical survey of some oil land in Eastland County, Texas; (2) winding up the affairs of a bankrupt commercial concern; (3) designing a small dam. When he wrote a few days ago he expected to go to Mexico on an irrigation survey of a 53,000 acre tract of land. Address 332 North Ewing Avenue, Dallas, Texas.

R. G. Shand. Assistant sporting editor of the *Washington Herald*. He has left the Navy; address is 1410 Massachusetts Avenue, N. W., Washington, D. C.

Raymond S. Stevens. Assistant to the president of the Arthur D. Little Company, Cambridge, Mass., chemists, engineers, and managers. In this position he assists the president in the assignment and followup of work, and in miscellaneous matters.

H. R. Stewart. Mechanical engineer with the Stewart Boiler Works, Worcester, Mass. This company manufactures sheet steel plates into boilers, tanks, digestors, dryers, kettles, etc. His work consists of measuring plants for size, location, and kind of boiler, and drawing up plans. Practically, this is the work of a consulting engineer.

Henry E. Strout, Jr. Is at San Mateo, California, with the California Packing Corporation. Engaged at present in analyzing costs. This company has sixty-five canneries.

Warren L. Tapley. Superintendent of a shoe factory in Derry, N. H. His duties are varied, including those pertaining to running a small shoe factory, production, labor costs, etc.

H. S. Toole. Heating engineer with a company in Buffalo, N. Y. engaged in the distribution of automatic oil burners for domestic and industrial purposes. Is engaged in researches and tests with the purpose of cutting down or eliminating heat losses in furnaces; also in the compiling of cost data on operation, and assisting in sales promotion. His address is 873 Prospect Avenue, Buffalo, N. Y.

N. E. Tourtellotte. Director of research of the department of industrial relations, in the Waterfront Employers Union of Seattle, Washington.

J. E. Wallis. Sales engineer of Sullivan Machinery Corporation, manufacturers of heavy machinery. He is located at the branch office, St. Louis, Mo.

E. D. Wells. Has been sales manager of the Sullivan Machinery Corporation, and was located at the branch office in Cleveland, Ohio.

W. A. Wood. Special assistant to the general manager of the Los Angeles Dry Dock Company, San Pedro, California. This company is undertaking the installation of scientific

management under the direction of the general manager who is Wood's immediate superior. This manager was the youngest in the original "Taylor group." With one other man Wood is getting the information, devising the changes, and supervising the installation of the Taylor system in a plant employing 3,500 men, which is about twenty-five per cent of the possible maximum.

I. W. Young. Division manager of the F. A. Manufacturing Company, 1124 Republic Building, S.E. cor., State and Adams Streets, Chicago, Ill., which manufactures sole leather and floor coverings. Has been stationed in Boston, but recently was transferred to Chicago, where he will develop a new territory in the Middle Western States. His work is concerned with establishing branch offices and getting jobbers and dealers.

Winthrop C. Swain I. Is still doping the stock market as a financial statistician with Moody's Investor's Service.

Many recent new addresses are: Clarence Auty, York Street, Andover, Mass.; Richard H. Catlett, 27 Haymarket Square, Boston, Mass.; Stanley L. Chisholm, Research Department, Westinghouse Lamp Co., Bloomfield, N. J.; John B. Dickson, 544 Whitney Avenue, Akron, O.; Paul M. Flagg, 5231 Kunbark Avenue, Chicago, Ill.; Emil Gramstorff, Farmcrest Avenue, Lexington, Mass.; George P. Igleheart, Hillcrest Avenue, Phillipsburg, N. J.; Duncan McRae, Westinghouse Lamp Co., Bloomfield, N. J.; Dean H. Parker, care Edgewood Arsenal, Edgewood, Md.; Charles D. Proctor, Technology Club, New York City; Winfred W. Smith, 2209 Whittier Avenue, Baltimore, Md.; Ray C. Sylvander, Bureau of Standards, Washington, D. C.; Dexter A. Tutein, 1001 Finance Building, Philadelphia, Pa.; Adolphe H. Wenzel, care Jackson & Horeland, 387 Washington Street, Boston, Mass.; J. Benton Wirt, 900 Shattuck Avenue, Berkeley, Cal.; Irving W. Young, 1124 Republic Building, Chicago, Ill.

1918

DAVID M. MACFARLAND, *Secretary*, 6263 South High Street, West Chester, Pa.

On Saturday, May 14, Julian Cheever Howe was married to Miss Elizabeth Platt Hannum, daughter of Rev. and Mrs. Henry O. Hannum, in the First Church of Newton, Newton Centre, Massachusetts.

At a dinner dance at the Hotel Brunswick announcement was made of the engagement of Miss Loretta Mildred Dakin, daughter of E. Lawrence Dakin, formerly of Cleveland, Ohio, to Alden Davis Nute of Fall River, Mass.

Mr. and Mrs. Fred H. Pray of 238 School Street, announce the engagement of their daughter Dorothy, to Edwin John Cameron of Cambridge. Mr. Cameron served two years in France, graduating with the 1918 post war class in June, 1920. Miss Pray is a graduate of Somerville High School. Mr. Cameron is in business at Terre Haute, Ind.

At a musicale with tea, held at the home of Mr. and Mrs. George Kilborn, 48 Clarendon Street, Malden, announcement was made of the engagement of their daughter, Ethel Louise Kilborn, to Captain John A. Steere, U. S. A. Miss Kilborn was a pupil of the late Miss Ryder's School in Medford. Captain Steere was a student at M. I. T. in the Class of 1918, entering the service at the outbreak of the war and serving with the Army of Occupation in Germany. At present he is with the Thirteenth Field Artillery, stationed at Honolulu.

1919

PAUL D. SHEELINE, *Secretary*, 55 Magazine Street, Cambridge, Mass.

Summer is with us again and with it come the countless reunions and graduations, which are so essential to collegiate life. To see and hear the affectionate greetings of classmates of the sixties and seventies and eighties makes one wonder what our 1919 Class reunions will be like twenty or thirty years from now. Will we be interested enough to even attend these reunions? This brings up the question of class organization, a subject in which our own Class seems woefully lacking. Because of inadequate Class finances it has been impossible to keep in touch with 1919 men in any way except through the REVIEW notes. We hope to change these conditions, but our hands are tied without co-operation

from each and every classmate. To begin with, the addresses which are kept on file by the secretary are largely obsolete, in that many changes have been made by the men of which we have not been informed. To start the ball rolling, sit down *now* and write your correct address, occupation, and anything else you may want to add, on a post card and send it to the Class secretary. This means *you* whether you get your Tech mail regularly or not.

Our next effort to "get together" should be by means of frequent gatherings of 1919 men in various large centers. New York, Boston and Palmerton (this may not qualify as a large center) have had several 1919 dinners during the past year, but there is no reason why frequent informal gatherings cannot be managed.

The question of Class funds, or rather the lack of them has already been mentioned. We hope within a short time to send out a treasurer's report to every member of the Class and with it there will be some sort of "request" or assessment. Every one should and will give, we know. The amount asked for will not be great, so don't lose any sleep over it. Let's get together fellows and get a little pep into our Class.

A strange coincidence occurred at the Alumni dinner in Walker Memorial, following Dr. Nichols' inauguration on June 8. A special table was reserved for 1919 men and there were exactly nineteen present. Those who attended were:

Alexis R. Wirin, 347 Madison Avenue, New York City, helping in the education of Russians. Francis O. Wyse, assistant engineer, Blanchard Machine Co., Cambridge. — Leighton B. Smith, 488 Center Street, Newton, Mass., graduate student, M. I. T. — Clarence L. Nutting, chemist, Arlington Mills, Lawrence, Mass. — Joseph S. Newell, 593 State Street, Springfield, Mass., assistant in Course I, M. I. T. — William B. Snow, 112 Water Street, Boston, Mass., salesman. — Joseph Kaufman, junior management engineer, United States Rubber Co., 12 Browning Avenue, Dorchester, Mass. — Lester Wolfe, general engineer, 223 Fox Street, New York City. — Fred P. Baker, instructor, M. I. T., 60 Kirkland Street, Cambridge, Mass. — Scott Keith, assistant engineer, Metcalf & Eddy, 14 Beacon Street, Boston, Mass. — R. B. Johnson, assistant inspector of grounds and buildings, Harvard University, Massachusetts Hall, Cambridge, Mass. — G. H. Wiswall, Jr., Slater & Morrill, Inc., Watertown, Mass. — Lawrence M. Dalton, engineer, Link Belt Co., 30 Deering Street, Portland, Me. — A. E. Page, Daggett Chocolate Co., Boston, Mass. — H. A. Herzog, Gorton-Pew Co., Gloucester, Mass., Gloucester Y. M. C. A. — R. H. Bartlett, 122 Wentworth Avenue, Lowell, Mass. — D. A. Lundquist, ship draftsman, Navy Yard, Boston, Mass. — A. W. Hough, ex-naval architect, 152 Hayward Street, Braintree, Mass. — Paul D. Sheeline, investment banking, Dillon Reed & Co., 19 Congress Street, Boston, Mass.

Toward the end of the dinner, P. L. Rhodes, now New York representative of the Union Shipbuilding Co., 50 Church Street, N. Y., came in. Although "Dusty" made the twentieth, we were all mighty glad to see him.

Mr. and Mrs. Joseph Robinson Walker announce the marriage of their daughter Sybil, to Mr. Howard Hale McClintic, Jr., on Saturday, June 14, nineteen hundred and twenty-one, at St. Mark's Cathedral, Salt Lake City. Congratulations Jeff old man. We all wish you a world of happiness. Mr. and Mrs. McClintic will be at home after July 20, at 6630 Kinsman Road, Pittsburgh, Pa.

News has come to us of the marriage of Kinse Hashimoto, '19, to Miss Kay Ninornya of Tokio, Japan. The ceremony was performed at Marblehead, Mass., and was followed by a reception at Unity House, Boston. After a short stay in New York, Mr. and Mrs. Hashimoto will sail for Tokio. Our best wishes accompany them on their journey.

Mr. and Mrs. Paul Daniel Sheeline are being congratulated on the birth of a son, Paul Cushing Sheeline. Hail, to the new Tech man.

On Wednesday evening, June 15, a group of seven men had an informal dinner at the Lenox Hotel, Boston. Over twenty men had signified their intention of attending, but unfortunately other "more pressing" matters were given preference. Next fall when the even run of things is taken up again, the various sections are planning several large Class dinners. Let us hope there will be a little more interest shown at that time. The select seven were:

Max Untersee, who is now architecting in Boston, address, 585 Boylston Street; Art Griffin, doing construction work with his father, 17 Milk Street, Boston; Art Kenison, selling insurance, 185 Devonshire Street; Ervin Kenison, New England Telephone and Telegraph Co., Boston, Mass.; How Wyse and Paul Sheeline, whose addresses appear

elsewhere, and Jim Becker, who has just finished at the Stute and is leaving for Clyde, Ohio.

Bob Hackett and Ralph Gilbert were around Boston recently. Bob is with Helburn Thompson Company in Salem, experimenting in the dyeing of leather. Ralph, after spending twelve months in the Army in France, decided that he would attend the Sorbonne University in Paris (we wonder if the language was the main attraction). He is now back at the Stute.

Ernest F. Perkins, X, has been appointed an instructor in chemical engineering at the Northeastern College. Since his graduation he has been engaged as a metallurgist in the plant of the Oliver Chilled Plow Works at South Bend, Ind.

1920

KENNETH F. AKERS, *Secretary*, 54 Dwight Street, Brookline, Mass.

Commencement at the good old Stute has come and gone and the inauguration dinner to President Nichols was a decided success, taken as a whole, but not so successful as far as 1920 goes. Twenty-two loyal men turned out and used their lusty lungs to let the other classes know that 1920 was on hand. With all the '20 men around Boston we should have had a much larger delegation. Don't let's start to "slip" so early in our career—keep the old 1920 spirit to the front at all times. At the time of this writing I have not heard from any other of the gatherings that I hoped took place on June 8, but trust there were some in other sections of the country. The following men were on hand in Walker Memorial June 8: Ned Murdough, Malcolm Lees, Dusty Miller, W. K. Lee, Chuck Reed, Ev. Freeman, Bob Tirrell, Bob Mitchell, C. D. Carleton, Francis Bunker, E. D. Lord, H. C. Collins, Foster Doane, Jr., Bill Preston, Harold Hedberg, Norrie Abbott, G. B. Bengtson, Grant French, L. F. Weymouth, L. D. Wilson and Ken Akers.

Let everyone remember that the only way we can keep the crowd together is for each and every one of you to keep in touch with me. Letters have dropped off these last three months and I have not much news from the gang but here goes.

That's the stuff Harry Kahn, old kid, give me all the dope you can; the gang will want it. Here is what Harry tells me:

"Sam Ruttenberg has been with the Independent Lamp and Wire Co. of New Jersey since leaving Tech. 'Ruddy' is quite ambitious and one may find him any Saturday afternoon at the N. Y. Public Library delving into anything that pertains to thermal resistance of metal.—I hear Ed Stork has decided to go out for himself and make some sort of chemical used in lithographing. He is still in New York. Perhaps he will have more 'dope' for us soon. (The editor wishes you the best of luck.)

Sam Schenberg, when last accounted for was with the American Smelting and Refining Co. of N. J. as chemist and has wonderful prospects. He writes, 'the work is all in the metallurgical field and I find it very interesting'—and he closes with 'sincerest regards from Mrs. Schenberg, Jr.'—Si Freed writes from across the big waters. He is working with Professor Urbain, the discoverer of a number of elements. He is working for a doctor's degree in 1922. Si says "Paris alone is worth a trip across the Atlantic." Harry Kahn himself is with the American Encaustic Tiling Co. in Zanesville, Ohio, as assistant director of the Research Dept. The work is all in the ceramic field and very interesting. He closes with the remark that Zanesville is a more or less nine o'clock town and he is getting fat on ten hours' sleep per night.

Henry L. Nash has announced his engagement to Miriam Davis of Cambridge. The wedding is to be in June. — Merritt H. Taylor was married April 30 to Miss Hester Walker of Boston. They will reside in Philadelphia. — Larry Boyden was married March 29 to Mary Alden Wiley of Brookline at her home on Harvard Street.

Sy Syner writes from Deer Trail Mine, Marysvale, Utah, that he has been given a new job, that of shift boss. He is "on" only nights and the big boss is asleep and the whole job is his. He has to keep the mine foreman from using the compressed air for ventilation.—Raymond R. Ridgeway has announced his engagement to Miss Margaret Lyman Longfellow of Auburndale.—Bob Rowe sailed for Europe April 12 to visit his brother who has been studying in Paris. He is back home I believe now.—Harold Bibber

is still in Paris teaching in Ecole Centrale. He says they lack the college spirit of student activities, etc., that our colleges have in this country.—Raymond Reese writes from Pittsfield that he was married December 30 to Miss Florence Milles, a Wheelock girl.

Hugh Duffill writes from Marseilles (Illinois, not France) that he is with the Highway Commission of that State.—Bob Aborn is in Bethlehem, Pa., recovering from a broken leg. He was injured in the Bethlehem Steel plant.—Al Burke has been selling trucks to the inhabitants of Pittsfield, Mass.—Skeetz Brown is also in Marysville, Utah, with the Deer Trail Mines Co. Judging from his letter, he has lost none of those traits which once made him famous.—George (J. P.) Morgan is oscillating between Texas and Mexico but as he is patriotic, he gets his mail at Beaumont, Texas, care of Eastern Texas Electric Co.

Flossie Fogler is with the General Electric Co. in Schenectady, N. Y.—W. B. Riddell writes from Montreal. He has the right idea!—Leland Gilleat is still with the Hygrade Lamp Co. and is very much pleased with his job.—Mr. Warriner (Sr.) writes that Bob is in England.—C. H. Klingler is selling gloves, etc., in the stables of Kentucky and Tennessee.—Jimmy Gibson is selling adding machines for the Burroughs Co. and living on Long Island.—L. D. Wilson is with the Beacon Oil Co. in Everett, Mass., doing construction work.

As for myself, I am still with the Fire Underwriters Bureau making inspections of factories, etc., all over New England.

The subscriptions to the Athletic Fund have been very slowly coming in. I had hoped for better results. But the men listed below have answered the call and I take this opportunity to acknowledge their donations and thank them for their promptness.

A. Higgins, H. A. Grosscup, J. Hennessey, P. Lavedon, J. Moir, R. Reese, F. Marconi, J. Wolfson, C. Carleton, J. Logan, L. D. Wilson, P. Merryweather, C. Klingler, R. I. Bradley, A. W. Demmler, F. M. Stokes, R. R. Warriner, W. M. B. Freeman, L. Gilliat, T. F. Hobson, F. D. Wilcox, Miss F. Fogler, H. Haskell, H. Gray, H. Murphy, P. I. Byrne, Jr., N. G. Abbott, H. Duffil, H. J. Kahn, L. B. Harris, J. Visscher, A. G. Merri-man, P. S. Brown, J. Keats, C. H. Yung, R. H. Aborn, K. F. Akers, J. W. McDonald, Jr.

